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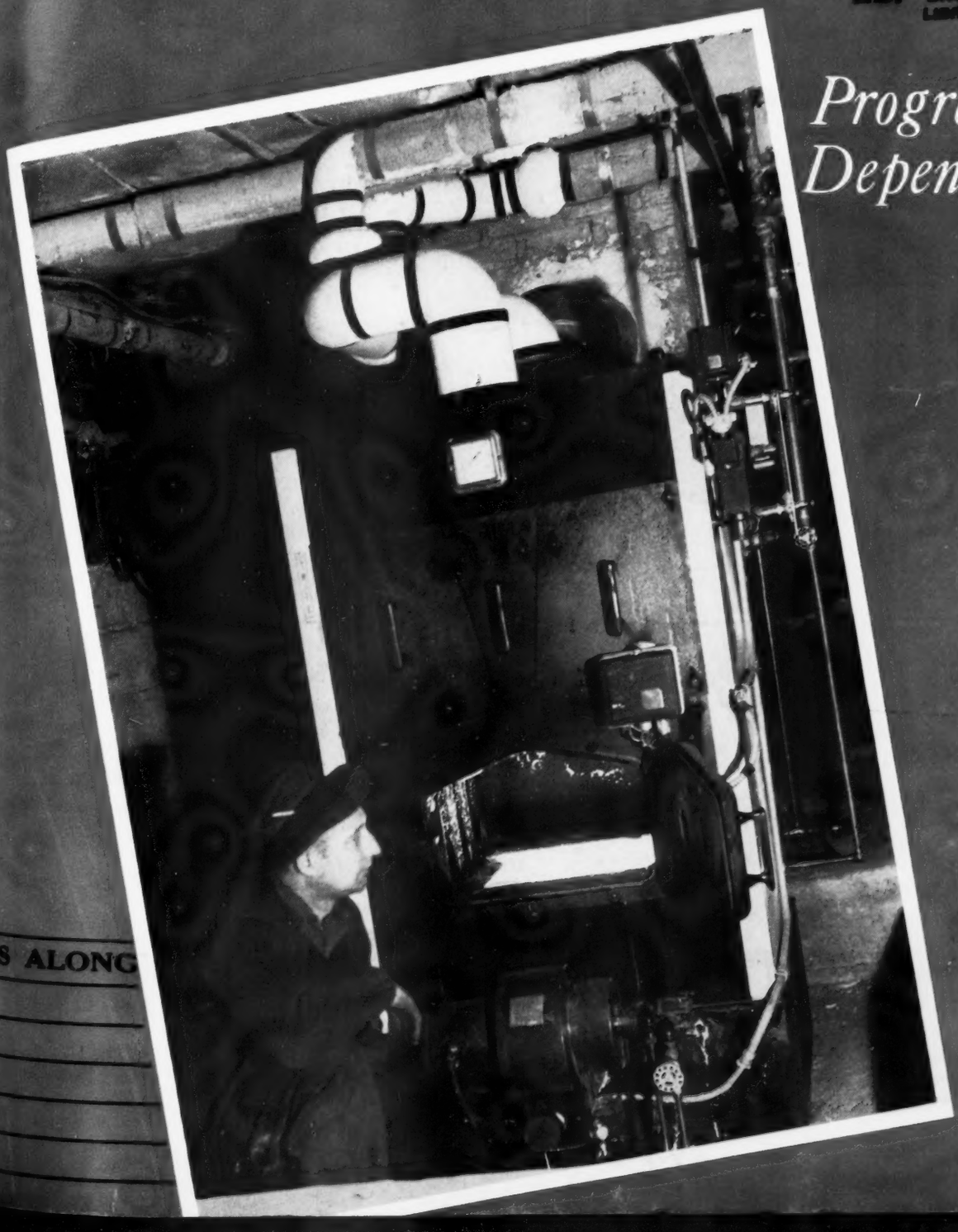
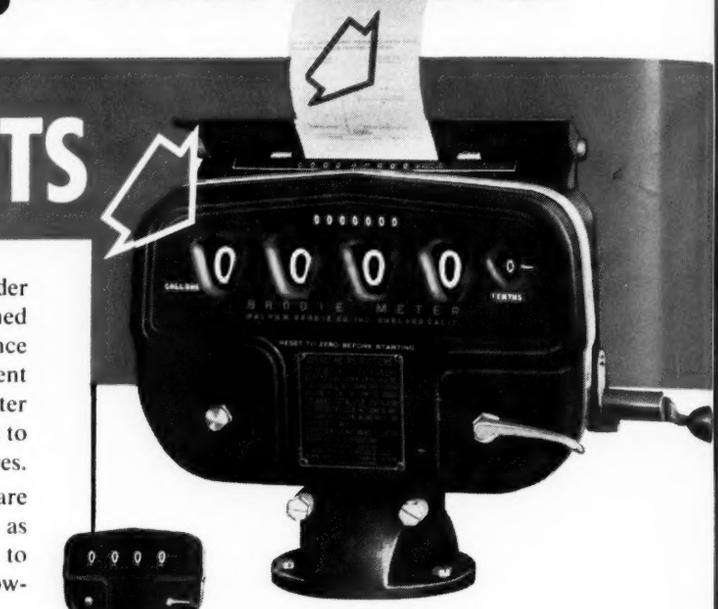


ASS ALONG

Where gallonage measurement

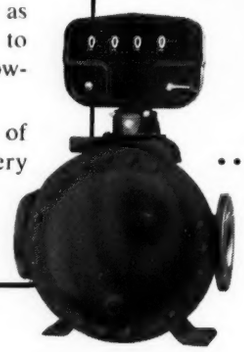
actually COUNTS



There are *two basic points* to consider in selecting a meter – the high sustained accuracy and continuous low maintenance performance of the positive-displacement measuring unit – *plus* an efficient counter designed for use with that measuring unit to convert measurement into recorded figures.

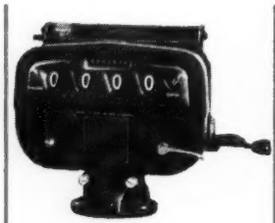
Brodie Meters and Brodie Counters are designed and built by Brodie to function as a complete unit of one manufacture to provide maximum dependability and low-cost performance.

Coupled with the wide assortment of counter arrangements, they meet every stock-handling requirement.



...IT TAKES THE PERFECT COMBINATION OF BOTH METER AND COUNTER TO GIVE YOU THE BEST IN METERING!

Easy reading Brodimatic Counters with reset and totalizer.



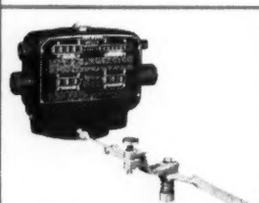
Brodimatic Printers with zero start or totalizer

Brodimatic Quantrols, fully automatic quantity control. Available with printer

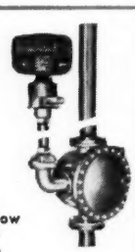
45° Angle Adaptor, easy reading for below-eye-level or horizontal installations.

Swivel Adaptor permits counter to be rotated full 360° while operating or idle.

S.R.Q. single quantity repeating Quantrol for production line filling, batching, blending.



A.R.Q. adjustable quantity automatic repeating Quantrol fills cans, drums, etc.



Right Angle Adaptors and Extensions allow full flexibility of installation.

Series "G" Counters for compact installation, with reset and totalizer.

Remote Counter Systems for in-the-office control of transfers and records.

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REPRESENTATIVES WITH STOCKS AND SERVICE FACILITIES IN ALL PRINCIPAL CITIES

MAY 1955

VOLUME 14 NUMBER 5

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Among other things . . .

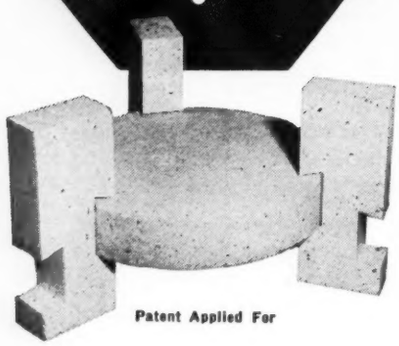
Call oilburner service a "necessary nuisance" if you like but never forget to call it necessary. Nothing in our industry's history has stirred us so much as the competitive fuel conditions of today, and burner service comes to the fore as a "must" for management level attention.

That's why this is a "service management" issue, with enough meat to keep the department thinking for quite a spell. Four of the main feature articles cover this.

Leading is the annual analysis of service activities, prices and costs, including profit and loss studies with some surprising conclusions. Another five-page feature explores a group discussion by five stars in service management, all aimed at intelligently avoiding losses.

Lee Johnson's story discloses a novel development in a mechanism to refine the operation of automatic deliveries.

HEATLOK BAFFLES CANNOT COLLAPSE !



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3. **Choice of four installation heights by turning or reversing lug posts.**
4. **Increased combustion efficiency—lower fuel costs.**

Kolb "Heatlok" baffles are your best bet if you want to save time on the job, save money and please your customers.

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Names in the News

Gilbert W. Denges, vice president of the Williamson Heater Co., Cincinnati, Ohio, has been appointed manager of Research, Engineering and Product Development. At the same time it was announced that *Gustave Leytze,* vice president, previously manager of Furnace and Armor Plate Production, would move into Denges' former position of manager of Jobber Sales. Denges has been with Williamson for 28 years and recently was elected president of the National Warm Air Heating and Air Conditioning Association. His new responsibilities will include heating and cooling product development along with repair and service department supervision. Leytze, with the company for 31 years, in addition to supervising the Jobber Department sales, will coordinate Williamson's advertising, sales promotion and market research activities.

Denges

Leytze

Robert E. Navin recently joined the Hays Corporation, Michigan City, Ind., as assistant to the executive vice-president. Formerly with the Detroit Bevel Gear Co., Detroit, Mich., Navin, in his new position, will be concerned primarily with engineering activities of the company.

Lyons O. Dugan has been promoted to sales manager for the Western District of the Jefferson Electric Co., Bellwood, Ill. Joining Jefferson as a salesman in 1943, Dugan previously was a manager of the Personal Finance Co., Oak Park, Ill. He will have his headquarters in Los Angeles, California.

H. N. McMenimen, Jr., recently was promoted to the position of manager-sales for the Air Conditioning Div., General Electric Co., Bloomfield, N. J. McMenimen will continue his responsibility as northeastern regional manager for the division, although he will move his office from New York City to the company's airconditioning headquarters at Bloomfield, N. J.

McMenimen

Sumner Ladd has been promoted to the position of manager, Industrial Controls Division of General Controls Co., Glendale, California. Previously Ladd served as factory sales engineer, acting in a liaison capacity between the company's engineering and sales division for the industrial, refrigeration and heating product lines. Future plans call for Ladd to make tours throughout the country assisting and instructing sales personnel in the company's industrial product line.

H. Melvin Carnahan has joined the Airtemp Division, Chrysler Corp., Dayton, Ohio, in the new post of assistant salesmanager in charge of residential airconditioning. At the same time, *Martin Roth* has also joined Airtemp as sales vice-president to handle special builder assignments. Carnahan, until his recent resignation, was vice president of sales for Sunbeam Air

Carnahan

Roth

Learn Why It Pays To Sell This Big Quality Line!

The big Sun-Ray line—one of the leaders in the industry—stands at the top in quality and performance and offers you the biggest profit opportunities. Get the facts on why it pays to sell Sun-Ray burners. Return this coupon today.

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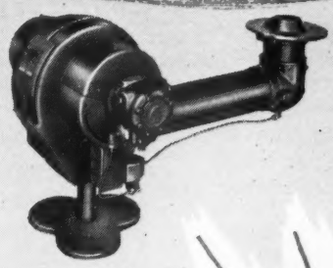
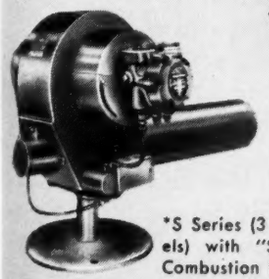
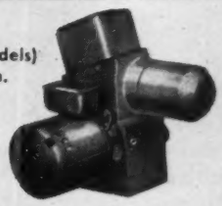
*Model VS (Vertical Flame), "Shell" Combustion Head; 0.7 to 2 g.p.h. Model VS-1, 2 to 3 g.p.h.





*S Series (3 models) with "Shell" Combustion Head; 0.7 to 6 g.p.h.

D Series (2 models) 0.5 to 2 g.p.h.



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FAMOUS THE WORLD OVER FOR QUALITY AND ECONOMY

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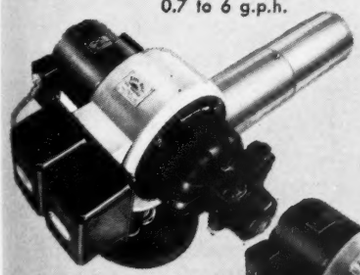


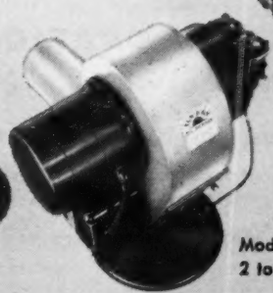
Model G 0.75 to 2.5 g.p.h.

*Model K 10 to 22 g.p.h.

*Delayed action oil valve mounted and wired. Available on other models as an extra. Built-in electronic controls optional on all models.

*Model J 6 to 12 g.p.h.

Model H-2 5 to 8 g.p.h.



Model H 2 to 6 g.p.h.

OHI

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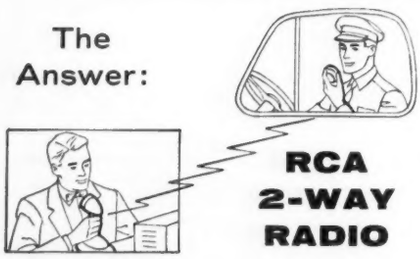
Distributed in Quebec and the Maritime Provinces of Canada by Economic Oil Burner Co., Ltd. 5721 St. Denis St. Montreal, Quebec

How to step up service and win new customers

The Answer:



"Our slogan is '15 minute service when you need it'," says William H. Sullivan, President and General Manager, Shore Gas and Oil Co., one of the largest independent distributors in New Jersey. "With radio it is often possible to dispatch a truck while the customer is still on the phone!" No wonder business is booming for this firm.

Their RCA 2-Way Radio is more than paying for itself, according to the record. Based on their expenditures for equipment and service, plus 10-year depreciation, radio costs them 70 cents a day per truck. Figuring three dollars an hour running time for a truck and saving an average of one hour each day per truck, radio is paying generous dividends.

Attract business *your* way by installing RCA world-famous 2-Way Radio. Accident-proof 16-gauge steel case, housing the transmitter-receiver, withstands toughest shocks and jolts. Quality parts assure top performance, proof against gruelling weather conditions, whether intense heat or intense cold. Operating costs are low, servicing easy.

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ADDRESS_____

CITY_____ ZONE_____ STATE_____

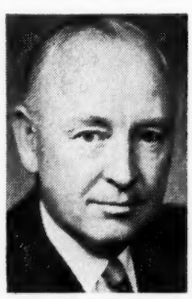
Conditioner, while Roth was affiliated with The Pekin Wood Prods. Co., Helena, Ark., a former Chrysler Corp. subsidiary.

William W. Morrisey and *John A. Jennens* have been named by Lau Blower Co., Dayton, Ohio, to the position of salesmanager for the blower division and controller respectively. Prior to his appointment, Morrisey was district manager for Waterman-Waterbury Co. in the states of Illinois and Indiana. Jennens, formerly with Arnold, Hawk, and Chuthbertson, Dayton, succeeds *Richard L. Perkins*, who recently became secretary and assistant treasurer of the firm.

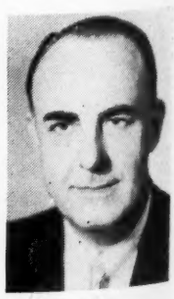
Morrisey

Sidney C. Reese, assistant to the sales manager of the furnace sales division, Perfection Utilities, Cleveland, Ohio, passed away April 16 following a short illness. With Perfection for 39 years, Reese started as a clerk in the firm's traffic department in 1916. At the time of his death he was 59 years old.

Bronce L. Ray has been elected a vice-president and member of the executive committee of Esso Standard Oil Co., New York, N. Y. Associated with the company's sales operations for more than 30 years, Ray has been a director and general manager of marketing. Succeeding Ray as general manager of marketing is *John A. Miller*, formerly assistant general manager. Moving into Miller's position as assistant general manager is *Gordon G. Donald*, who previously held the post of manager of division sales.



Ray



Miller

Why is LENNOX No. 1 in Warm Air Heating?

It's this DEALER POLICY that makes LENNOX NO. 1

Lennox wants its dealers to be prosperous—locally the most prominent name in home comfort. The entire factory-dealer partnership (no middle man) is built upon this basis. Here's what being a Lennox dealer would mean to you:

- **The finest, most complete sales and service schools in the industry . . . designed to teach your men the latest techniques, increase your sales volume.**
- **A product warranty that *assures* customer satisfaction . . . far more liberal than is common in the industry.**
- **Most effective, "two-fisted" selling tools ever offered dealers in the heating and air conditioning field.**
- **Proven business development ideas . . . door openers, methods of getting extra sales and service business. Special plan to get more builder business, too.**
- **Nation-wide branch office engineering service that places the *finest* heating and air conditioning technicians at *your* disposal—whenever and wherever you need them.**
- **Largest consistent advertising program . . . tells your prospects about *your* products . . . helps establish you as the leading dealer locally.**
- **The finest products in the industry . . . the most complete line to sell.**

LENNOX BRINGS YOU YOUR NO. 1 OPPORTUNITY IN HOME AIR CONDITIONING

- **Largest, most complete line**
- **Air-cooled and water-cooled models**
- **Single package and remote systems**

Cash in on the big "boom" in home cooling! Lennox 100% hermetic systems easy to install—give longer, carefree service. Models available for use with forced air heating systems—save your customers up to half the cost.

THE LENNOX FURNACE COMPANY
Leader in home comfort for 60 years
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THE LENNOX FURNACE COMPANY
(Address your nearest branch. See locations above.)

All right! Send me more information about a Lennox dealership in my town. Show me how I can make more money with the Lennox line. No obligation on my part.

COMPANY NAME_____

ADDRESS_____

CITY_____ STATE_____

MY NAME_____

Editorial Leaks

THE NEW PRESIDENT of Oil-Heat Institute, George Hochstein, of the Heil Company, took over the job under very favorable conditions. The oil-heating industry is doing well this year and while it has a first-class fight on its hands with other automatic fuels, George is well able to keep that situation under control.

Few men who have ever been elected to the high post have been as well liked personally as George. With a quiet manner but well-developed sense of humor, you can nearly always get a chuckle out of some of his observations.

Then he has shown an almost exhaustless energy in working on several important committees for the Institute.

We are all going to enjoy watching George steer the ship.

❖

AND WHILE IN the pleasant mood of saying nice things that we really mean, we were sorry to see Paul Addams come down off the high perch. He's the first boiler maker to occupy the top spot in the Institute, and he certainly has brought to the post a lot of distinction during his incarceration.

It's anybody's guess but worth a fair bet that Paul will go on being very helpful as a member of the Executive Committee, and in fact none of us is inclined to let him off the hook too easily.

The Institute is strong in talent even though it could use more members of the manufacturer variety. There is considerable indication that it can go on to new peaks of activity, particularly now that it is being stirred up by pressures from the outside.

A man is inclined to think sharp when the family is under attack.

❖

AT THE LAST TWO meetings of the OHI Board of Directors there has been a suggestion put forth that the Institute appoint a strong committee to give special attention to the problem of oilheating in the new home market. We can continue to get a lot of business through conversions from other fuels, but this will take increasingly greater effort through the years because there are not so many prospects left.

The new home market on the other hand is growing and it also represents the most competitive segment of the heating industry.

We have got to take more of it but we're not going to take it unless we change our present tactics of nibbling at the side and tackle it head on as the industry's No. 1 problem. The large oil companies are going to carry the impact of oilheating promotion through local campaigns on a very substantial scale.

Oilheating equipment manufacturers should certainly be willing to make a modest investment and a special study of the new home field. Our position can certainly be improved in that direction, but it will take some special money for high-class extra effort.

One prominent manufacturer has suggested that the Institute members agree to an assessment of 100% on their dues for perhaps a two year period to create a special fund for the purpose. We strongly endorse that recommendation.

❖

ONE OF THE MOST effective features of the OHI convention in Chicago was the dealer round-table session on the last afternoon. This was truly a "round-table session" because the committee under Bill Allman had arranged some two dozen round tables each accommodating ten dealers and each exploring a different phase of dealer management.

The very active discussion at each table demonstrated such avid interest that we could not escape the feeling that there should have been more than one such session.

❖

AT THE START of the round table feature Allman introduced Joseph S. Whittington, a prominent fertilizer manufacturer from Baltimore, who agreed to answer questions from the floor and did with quite a flair. One dealer asked: "Can the lawn be burned if we use too much?" To which Whittington replied: "At the concentrations you are using you could squirt it in a baby's eye."

This man, of course, is interested in the development of the fertilizer business so he was not discrediting the activity . . . just being a realist.

❖

WHILE OUR FRIENDS in America are finding ways to make grass grow better and keep fueloil trucks busy in the process, over in England some scientists are working in the opposite direction. England, you see, has a relatively moist climate all year and the growth of everything is decidedly lush.

At the town of Bingley in England is a group of scientists operating as Sports Turf Research Institute. They have developed a liquid solution that slows down the growth of grass from an average 12 inches a year to only 3 inches. Thus, the typical Englishman will soon be doing his lawn mowing with a watering can, or perhaps some of the local fueloil marketers will do it for him.

❖

THE OILHEATING INDUSTRY may be overlooking a promotional bet by not doing its bragging in advance. The April 14 issue of the *New York Journal of Commerce* carried an item credited to the Gas Appliance Manufacturers Assoc. stating that 342,000 more homes in the Mid-Atlantic area will adopt gas for heating by the end of 1956, an increase of 22% over the present count.

About two-thirds of these are to be in new homes and the balance in existing ones. Whether or not this prediction materializes the interesting point is that the gasheating manufacturers are getting advance publicity built around "Amos and Andy" figures before the thing even starts to happen.

GAMA should learn that it's much safer to make a five-year forecast because by then no one can possibly remember what it was you predicted.

Bob Gray

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in any Fuel Oil Sales Plan

You will find amazing appeal for the householder in the automatic features of VENTALARM Signal fuel oil delivery! Over 4500 major and independent dealers have proved this to their own satisfaction.

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With it, we will send sample copies of letters, folders, envelope stuffers, cards and newspaper ads all ready to go to work for you. The literature can be imprinted in your name and it all is available at less than cost.

For Tanks in Use *Model LC* with easy compression-fit top

For New Tanks *Model LA* with threaded top

Count on VENTALARM Signal to save you between 15% to 30% on delivery costs in addition to all its customer benefits.

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Manufactured under full and active patent protection.

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VENTALARM® GAUGE
Combination Audible Signal and Visible Gauge

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Easy-to-See Separate Gauge Sturdy, Economical

FASFILL® CONNECTOR
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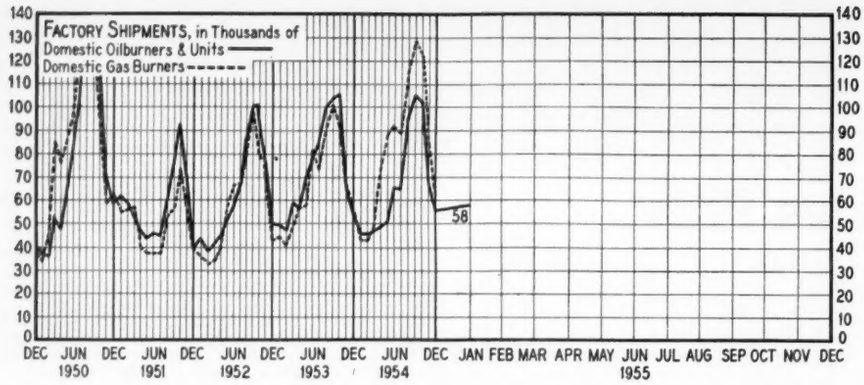
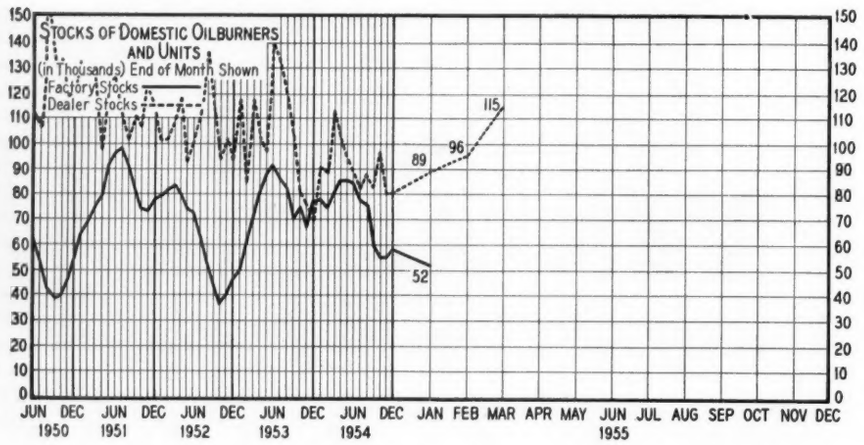

FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Gas Burners
58
DEC JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1950 1951 1952 1953 1954 1955

Shipments of Oilburners and Units

(Including Exports)

Adjusted to include manufacturers other than the 145 reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	JANUARY			TWELVE MONTHS		
	1955	*1954*	*Percent Change*	*1954*	*1953*	*Percent Change*
Conversion	40,886	30,466	+ 34.2	520,271	571,078	— 8.9
Boiler Units	4,312	3,833	+ 12.5	66,805	70,403	— 5.1
Furnace Units	12,620	10,768	+ 17.2	194,912	189,841	+ 2.7
All Domestic	57,818	45,067	+ 28.3	781,988	831,322	— 5.9
Commercial	2,532	2,265	+ 11.8	38,320	41,940	— 8.6
Total	60,350	47,332	+ 27.5	820,308	873,262	— 6.1


STOCKS OF DOMESTIC OILBURNERS AND UNITS
(in Thousands) End of Month Shown
Factory Stocks
Dealer Stocks
115
96
89
52
JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1950 1951 1952 1953 1954 1955

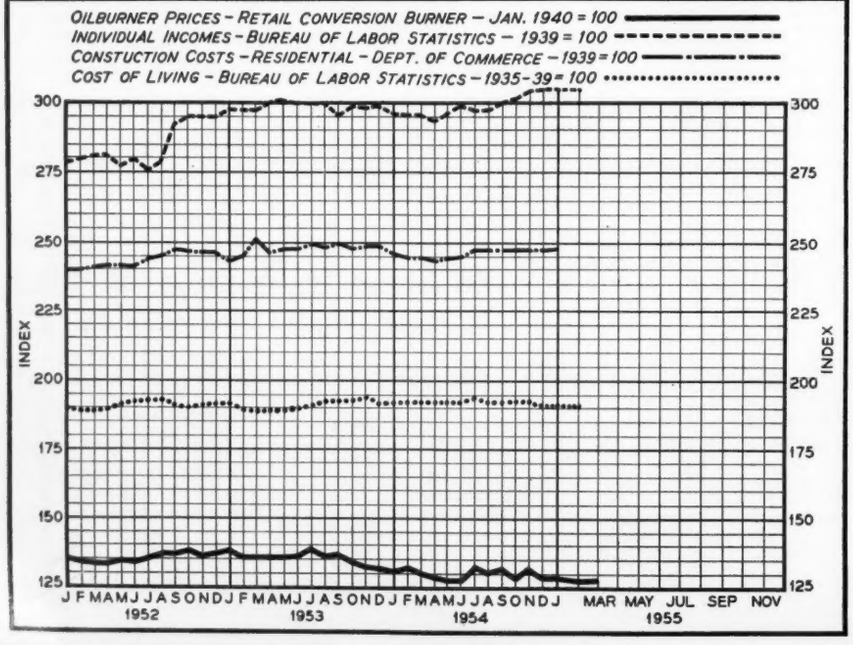
March Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS	BOILER-BURNERS	FURNACE-BURNERS
March Aver.	$315	$705	$594
February Aver.	315	696	599

Price Index: Conversion Burners: January 1940 is 100%

	WHOLESALE				RETAIL		
March	139.6	Six months ago	138.5	March	128.1	Six months ago	130.5
February	137.4	Year ago	140.1	February	127.5	Year ago	129.4

OILBURNER PRICES COMPARED TO GENERAL INDEXES


OILBURNER PRICES – RETAIL CONVERSION BURNER – JAN. 1940 = 100
INDIVIDUAL INCOMES – BUREAU OF LABOR STATISTICS – 1939 = 100
CONSTUCTION COSTS – RESIDENTIAL – DEPT. OF COMMERCE – 1939 = 100
COST OF LIVING – BUREAU OF LABOR STATISTICS – 1935-39 = 100
INDEX
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1952 1953 1954 1955

Oilheating Trends

MARCH INSTALLATIONS of domestic oilburners and units are estimated at 34,517 and this is 13% above the 30,446 installed in the same month last year. For the first quarter the total is estimated at 126,510 or 12% above last year's 113,142.

In the average of all post war years the first quarter has represented 13.1% of the total year. On that basis we are shooting for 964,000 installations. This is by no means a prediction but simply mathematical daydreaming. On the other hand the general business outlook is so good at the moment that 1955 might well turn out to be our record year.

The March installations were divided New Homes, 13,496, Replacements of old oilburners, 5,804, and conversions from other fuels, 15,217.

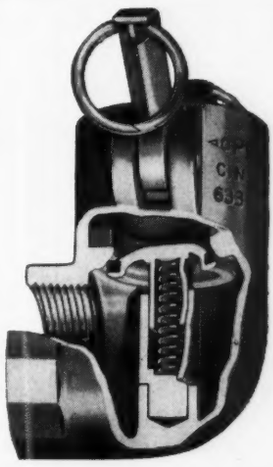
BURNER STOCKS: Estimated dealer stocks of domestic oilburners and units at the end of March were 115,446, compared with 96,778 the previous month and with 113,296 a year earlier. The March 31 stocks were divided: Conversion burners, 63,576; Boiler-burner units, 26,939; Furnace-burner units, 24,931.

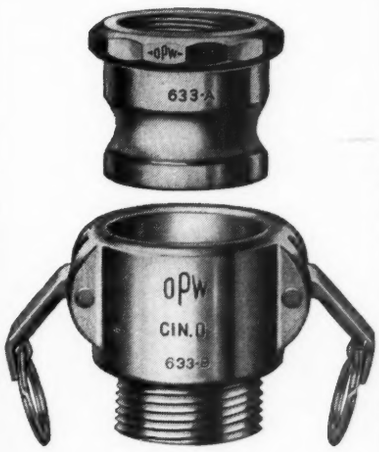
Factory stocks on January 31, latest available data, were 51,733, which is quite a low point considering last year's 77,736 on the same date.

TANK STOCKS: These continue at an exceptionally low level considering that dealers are accumulating oilburner inventories.

Tanks in dealer hands on March 31 were approximately 36,343 compared with 32,399 the previous month and with 86,674 the previous year. This low stock level is made more mysteri-

KAMLOK COUPLING ASSEMBLIES





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Available in any combination to meet coupling requirements in sizes from ¾″ to 4″ inclusive. Sizes ¾″ through 4″ of special hard wear-resistant bronze and OPALUMIN (hi-tensile aluminum alloy requiring no additional heat treating). 1″ through 4″ of monel. 1″ and 2″ (633-A and 633-B only) of stainless steel.

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ous by the fact that the average price paid by dealers for a 275 gallon tank went up during March one dollar to reach $30. A price move in this direction will probably stimulate buying during April.

By sizes the March 31 tank stocks were: 220-275 gallon, 30,123; 550-675 gallon, 4,555; 1,000 gallons or larger, 1,665.

❖

Special Study this Month

NEW HOME OILHEATING: Recognizing that new home oilheating has progressively grown in importance to the industry and that this trend will no doubt accelerate in the years ahead, we quite frequently make some dealer checks through our reporting group to learn marketing trends.

The whole special series of questions this month was built around new home business.

The dealers were first asked if they are making any special effort to sell oilheating to speculative builders. The answer nationwide is that 29% are actively going after this business and 71% are not. There was some geographic variation and it is interesting to notice that the affirmative trend on this moves from East to West.

In New England 17% of the dealers want this type of business; in the Mid-Atlantic states it is 21%; in the Midwest it is 54%; and in the Pacific Northwest 67%.

Next we asked the group about what share of their total equipment sales are represented by speculative builder business. The composite answer is 20%. This ranged from 10% in New England to almost 50% in the Pacific Northwest. This question did not refer to all new home work but rather the speculative type.

Then we moved into the angle of price by asking how the installed price of equipment in speculative homes compares with their charge for a single home sale. By speculative homes we had in mind group sales of 25 or more houses. On the average they sell these 17% below single home projects, with the heaviest discount in the Mid-Atlantic states at 23%.

Oilburner* and Building Permits

OILBURNERS					DWELLINGS			
March		3 MONTHS			March		3 MONTHS	
1955	1954	1955	1954		1955	1954	1955	1954
..	5	..	25	Albany, N. Y.	..	..	..	..
47	44	129	175	Baltimore, Md.	197	156	950	536
..	..	..	..	Binghamton, N. Y.	25	20	34	27
..	..	..	..	Bloomfield, N. J.	26	11	45	22
..	..	..	..	Boston, Mass.	55	32	135	82
87	69	264	225	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, N. Y.	48	29	111	72
0	15	175	62	Columbus, O.	..	..	..	..
..	..	..	..	Des Moines, Ia.	116	255	521	948
..	..	..	..	Detroit, Mich.	336	205	646	582
17	45	52	95	Elizabeth, N. J.	18	2	23	10
30	31	114	84	Freeport, N. Y.	..	..	..	..
..	..	..	..	Greenwich, Conn.	35	119	78	154
..	..	..	..	Hackensack, N. J.	5	2	17	10
..	88	..	344	Hartford, Conn.	..	..	..	..
..	..	..	..	Hudson County, N. J.	..	..	..	..
19	19	30	44	Irvington, N. J.	3	3	7	4
..	..	..	..	Lynn, Mass.	13	30	45	42
33	116	82	193	Meriden, Conn.	..	..	..	..
436	451	1079	1238	Milwaukee, Wisc.	322	253	682	518
8	10	41	50	Minneapolis, Minn.	92	113	174	175
12	12	36	28	Montclair, N. J.	..	..	..	..
3	..	6	..	Morristown, N. J.	0	17	0	20
30	29	60	57	Mt. Vernon, N. Y.	..	..	..	..
71	68	..	183	Newark, N. J.	..	..	..	..
66	45	199	130	New Bedford, Mass.	..	..	..	..
19	22	48	78	New Haven, Conn.	..	..	..	..
..	..	..	..	New Orleans, La.	..	..	..	..
65	23	85	57	New Rochelle, N. Y.	48	35	122	60
..	..	..	..	New York City (Total)	..	..	..	..
706	924	2465	2749	Brooklyn-Queens	..	..	..	..
..	..	..	..	Manhattan, Bronx, Rchd	..	..	..	..
24	109	75	203	Norfolk, Va.	62	50	146	114
..	..	..	..	Oakland, Calif.	..	..	..	..
0	9	14	58	Omaha, Neb.	169	124	286	205
11	7	..	18	Orange, N. J.	3	2	3	3
7	13	15	20	Passaic, N. J.	..	..	..	..
35	13	78	35	Paterson, N. J.	23	32	37	67
219	199	745	917	Philadelphia, Pa.**	..	..	..	..
..	..	..	..	Plainfield, N. J.	16	8	33	24
36	26	122	93	Portland, Me.	21	11	29	22
350	302	862	687	Portland, Ore.	138	168	291	375
7	5	55	32	Poughkeepsie, N. Y.	..	..	..	..
..	65	..	..	Providence, R. I.	18	8	39	26
..	..	..	..	Reading, Pa.	4	13	7	19
21	37	95	90	Richmond, Va.	46	56	91	123
..	27	..	101	Roanoke, Va.	..	..	..	..
129	102	235	247	Rochester, N. Y.	..	..	..	..
12	11	34	23	Rockville Center, N. Y.	4	8	14	20
33	26	83	76	Salem, Mass.	8	7	17	9
128	131	381	354	St. Louis, Mo.	48	62	121	130
8	7	37	30	St. Paul, Minn.	109	112	197	215
9	36	27	71	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Wash.	230	213	589	507
106	79	506	318	Spokane, Wash.	..	..	..	..
..	..	..	..	Springfield, Mass.	89	152	323	228
31	34	99	91	Stamford, Conn.	..	..	..	..
..	..	..	..	Syracuse, N. Y.	..	..	..	..
..	..	..	..	Trenton, N. J.	20	3	24	8
..	..	..	..	Utica, N. Y.	13	10	16	16
61	80	175	173	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	31	26	69	47
15	23	48	50	White Plains, N. Y.	10	14	15	29
41	32	110	103	Wilmington, Del.	21	5	27	6
63	87	233	276	Worcester, Mass.	..	..	..	..
18	63	80	124	Yonkers, N. Y.	..	..	..	..
2791	3155	8223	8419	*Totals*	2387	2247	5886	5301
—11.5	..	—2.3	..	*Percent Change*	+6.2	..	+11.0	..

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

**Courtesy "Philadelphia Inquirer."

It's interesting to notice the pricing philosophy of the companies doing speculative builder business. One out of eight, or 13%, prices this work to get back material and labor cost only. About half of them, 48%, get material, labor and a modest overhead. The remaining 39% of companies price builder business to get an actual net profit.

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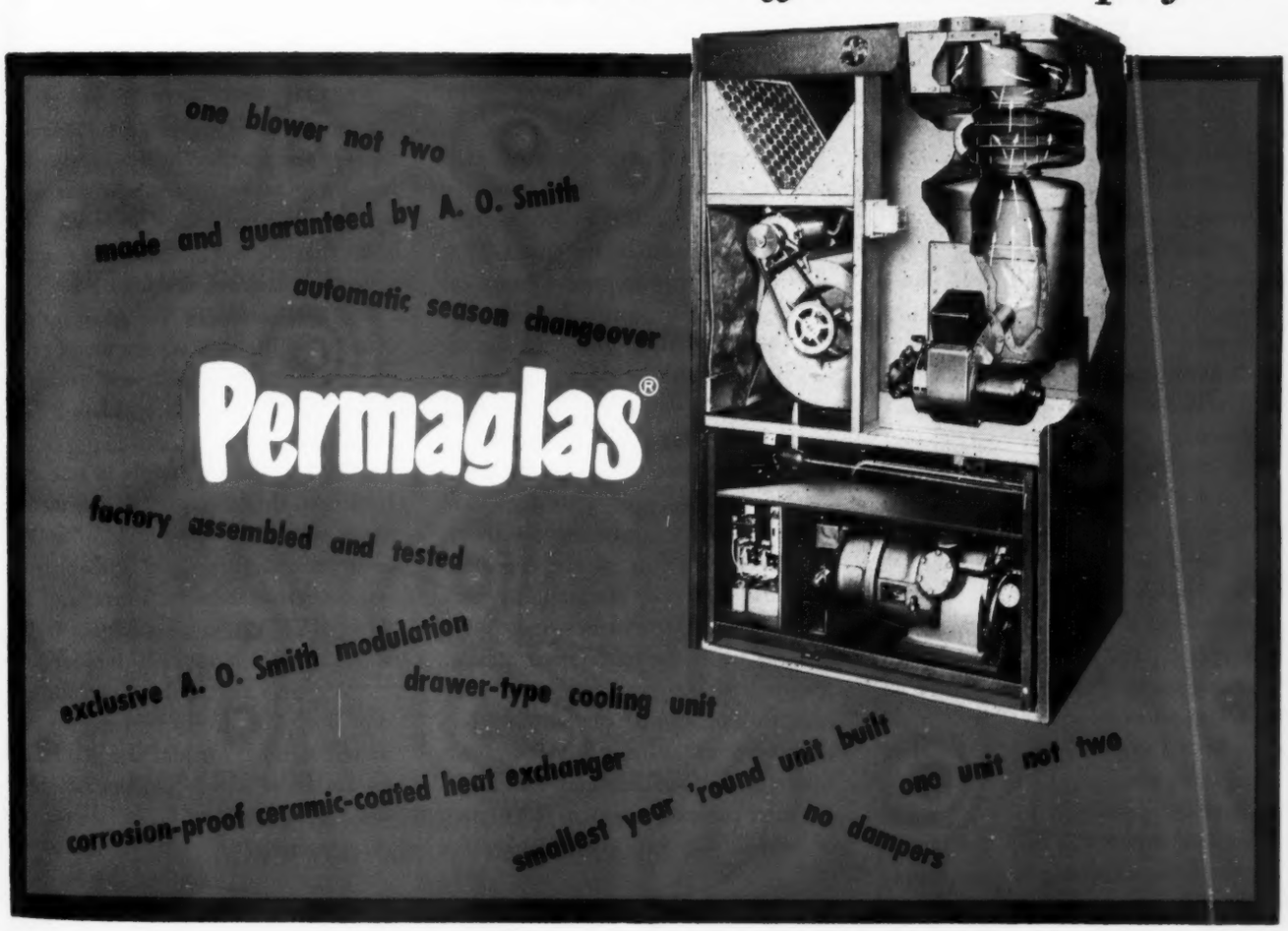

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New Home Heating

	Total Starts* (dwelling units)	Residences** Centrally Heated	Oil	Gas	Coal & Other
1946	670,500	427,444	58,126	271,006	98,312
1947	849,000	541,238	283,298	155,105	102,835
1948	931,600	593,895	193,479	306,393	95,023
1949	1,025,100	655,501	281,865	288,420	85,216
1950	1,396,000	889,950	315,834	466,432	107,684
1951	1,091,300	695,704	255,173	362,300	78,231
1952	1,127,000	718,463	278,522	383,465	56,476
1953	1,103,800	703,673	323,582	350,410	29,681
1954	1,220,200	777,878	317,355	405,225	55,298

*Source B.L.S.

**After deducting 15% for multiple units and 25% for homes not using central heating plants.

The tables on this page were prepared at the request of an official in the Department of the Interior and are being reproduced because they will probably have some interest for the oilheating industry.

profit was because it would take quite an analysis to be able to make such figures useful.

Then we explored a little further the question of pricing by asking what percent of the selling price on builder business is represented by straight material and labor cost. The nationwide answer on this is 81%. It was interesting to go back to the three groups just mentioned and separate them by their answers on this point.

Those companies who sell builder business at approximate material and labor cost show on the average this M & L cost as 99% of selling price. Those companies who say they get material and labor plus modest overhead on builder business show on the average that their M & L cost was 85% of the sale price. The third group, those claiming material, labor and overhead and a small profit show that their direct M & L cost is 74% of the selling price to builders.

Another point not too well measured in the past has been the importance of the wholesale heating supply house in the builder market. The composite opinion of the reporting group on a nationwide basis is that just under one-third of all speculator business is actually sold to the builder by the wholesale houses and then installed by a local dealer on a small margin.

In some instances this dealer is an oil company that hopes thereby to get the oil business but more often it is a small plumber or sheet metal operator.

When the fueloil distributor sells oilheating equipment to the speculative builder he can depend on getting three-fourths of the home builders for oil customers. The percentage on this ranged all the way from 2% to 100%, but most of the answers were in the 60% to 90% range.

In other words while the oil man may sell speculative builder jobs at a very close price in the hope of getting a good oil account he has just a 75% chance to get that account. Obviously, that is enough to justify the risk.

Next we asked the group if the companies in the future plan to go after more of the speculative business than they have in the past. Those answering "yes" represented 47% and the other 53% answered "no." This does indicate that there will be more activity, because nearly half of the reporting companies say they are going to work harder on this type of business.

Now we come to a rather strange discovery. It has been common knowledge that occasional fueloil marketers that were not selling their equipment to speculative builders were instead going after these oil contracts in a variety of ways. We find surprisingly that 48% of the reporting companies are willing to take the first year warranty service on the burner without charge to get the oil account. Then we find another group representing 17% of the reporting oil companies that will pay the builder a commission in cash for the oil account. Thus we have nearly two-thirds of the oil companies willing to help the builder in some way to get oil business from the home buyers.

This is not at all an unreasonable approach but we were surprised to find it that high. The value of a first year warranty on burner service based on our own market studies, is about $18, so that is in effect what the oil man pays for his account.

DEALER COMMENTS: Typical of comments and suggestions on questions of the month: "When we pay the builder or make an arrangement with him to cover the homes on service, we insist that the installer shall be responsible to replace any defectice parts" . . . "We find builders are poor credit risks" . . . "Builders want a lower price every time you figure a new group of homes" . . . "We pay builders $5 for each oil contract" . . .

"Oil and burner people in our area have been stupid enough to give money away with both hands" . . . "In our area the builders buy either from wholesalers or manufacturers" . . . "Instead of selling builders we are trying to sell the 'Do it yourself' builder" . . .

"We give the builder nothing except the assurance of keeping his customers satisfied for him and good service for them" . . . "Undecided about this business due to financial risk and close margin."

Oilheating Growth

RESIDENTIAL OILHEATING INSTALLATIONS

	New Homes	Replacing old Oilburners	Conversions from Other Fuels	Total	# in Use End of Year*
1945	..	..	..	145,596	2,517,055
1946	58,126	39,407	395,060	492,593	2,821,044
1947	283,298	58,613	546,172	888,083	3,650,514
1948	193,479	89,683	172,083	455,245	3,975,773
1949	281,865	62,700	270,147	614,712	4,490,535
1950	315,834	96,960	434,021	846,815	5,172,134
1951	255,173	91,808	328,079	675,060	5,704,556
1952	278,522	103,283	395,799	777,604	6,345,876
1953	323,582	104,567	395,216	823,365	7,017,609
1954	317,355	118,080	302,613	738,048	7,581,973

*Based on previous year's total plus installations in new homes and conversions from other fuels, less losses to other fuels.

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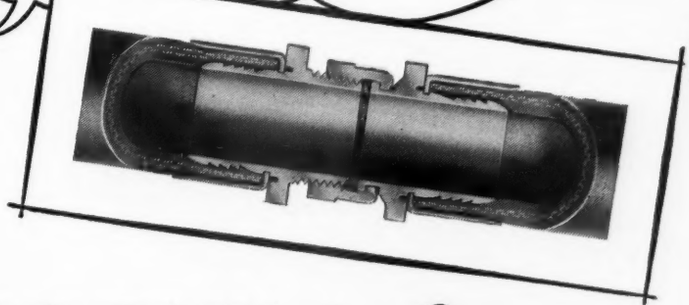

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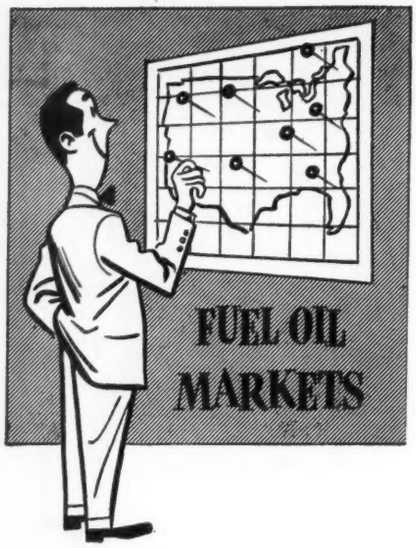

No. 2 Heating Oil (Including No. 3 & PS200)

Price per gallon as of April 15, 1955

	Tank Car	Tank Wagon		Tank Car	Tank Wagon
Portland, Me.	10.4¢	14.1¢	Richmond	10.6¢	13.8¢
Boston	10.3†	14.0	Charleston, S. C.	10.45	13.5
Providence	10.3	14.0	Chicago	10.7*	14.1
Springfield, Mass.	..	14.7	Detroit	11.65*	14.9
Hartford	10.55	14.0	Cleveland	11.3*	13.7
New Haven	10.2	13.7	Minneapolis	10.75	13.8
Syracuse	11.2	14.3	St. Louis	10.5*	13.9
Albany	10.5	13.7	Indianapolis	11.125*	14.6
New York	10.2	14.0	Milwaukee	12.0*	15.0
Newark	10.2	13.7	Des Moines	10.75	13.8
Philadelphia	10.2	13.6	San Francisco	10.15*	12.7
Harrisburg	..	14.2	Portland, Ore.	10.75*	13.3
Baltimore	10.2	13.75	Seattle	10.75*	13.3
Wilmington, N. C.	10.3	13.6	Spokane	10.15*	15.7
Washington	..	14.2	Los Angeles	9.65*	12.2

*Delivered.
Tank wagon prices shown are for maximum one-time delivery discounts.
†25¢ Vol. Allowance.

A PARTICULARLY WARM April in most of the principal oilburning areas of the country tended to taper off the heating season a little faster than might have been anticipated. The result, which was to be expected, has been the appearance of voluntary allowances on light oil prices at quite a number of points along the East Coast. You will recall that these allowances were in effect through the warmer months of last year.

The price table shows a voluntary allowance only at Boston but notice that the date of the table is April 15 and there have been a number of additional ones subsequently.

In general it is significant that No. 2 heating oil prices have been particularly firm right through the heating season and in fact there were a few points along the Eastern Seaboard where actual premiums were paid for cargoes. What a contrast this is to the gasoline picture.

The effect of warmer-than-normal weather in April is reflected in primary stocks. You will notice in the table that these are 16% above the corresponding date last year while they had been running below last year in the heavier consuming months. Fortunately, there is so much refinery capacity these days that any temporary lack of balance in stocks can quickly be corrected.

With fueloil running more profitable than house brand gasoline at the Gulf it is reasonable to expect that the summer stock buildup this year will be a little stronger than last.

DEGREE DAY TABLES

ONE MONTH ONLY					SEASON TO DATE			
	March		Percent		Sept. through Mar.			Percent
Normal	1954	1955	Change*		Normal	1954	1955	Change*
989	941	982	— 0.7	Albany AP	6045	5514	5866	— 3.0
604	393	304	—24.8	Atlanta AP	2673	2518	2695	+ 0.8
676	601	620	— 8.3	Baltimore AP	4289	3339	4623	+ 7.8
849	806	841	— 1.0	Boston AP	4972	4395	4793	— 3.6
992	988	959	— 3.3	Buffalo AP	5769	5184	5530	— 4.2
868	922	854	— 1.6	Chicago AP	5516	4736	5155	— 6.6
645	691	611	— 5.3	Cincinnati CO	4110	3723	4324	+ 5.2
874	920	812	— 7.1	Cleveland AP	5196	4543	4985	— 4.1
288	315	276	— 4.2	Dallas AP	2197	2084	2095	— 4.7
843	912	878	+ 4.2	Denver AP	5240	4364	5111	— 2.5
868	980	902	+ 3.9	Des Moines AP	5745	5216	5646	— 1.7
927	967	900	— 2.9	Detroit AP	5527	4980	5328	— 3.6
939	995	939	..	Grand Rapids CO	5602	5072	5411	— 3.4
871	802	874	+ 0.3	Hartford AP	5365	4740	5187	— 3.3
1017	1160	1357	+33.4	Helena AP	6898	5991	7008	+ 1.6
184	206	162	—12.0	Houston AP	1352	1218	1215	—10.1
772	802	751	— 2.7	Indianapolis AP	4973	4223	4882	— 1.8
666	717	657	— 1.4	Kansas City AP	4477	3612	4176	— 6.7
212	242	142	—33.0	Los Angeles CO	1235	935	1034	—16.3
611	650	542	—11.3	Louisville AP	4055	3747	3982	— 1.8
983	992	1021	+ 3.9	Milwaukee AP	5972	5181	5838	— 2.3
1057	1145	1211	+14.6	Minneapolis AP	6919	6271	6957	+ 0.5
163	190	127	—22.1	New Orleans CO	1156	1071	1131	— 2.2
753	729	733	— 2.7	New York CO	4423	3864	4362	— 1.4
831	920	880	+ 5.9	Omaha AP	5559	4868	5347	— 3.8
667	671	632	— 5.3	Philadelphia CO	4061	3608	4019	— 1.0
735	782	656	—10.8	Pittsburgh CO	4496	4094	4426	— 1.6
1039	1026	1065	+ 2.5	Portland, Me. AP	6406	5855	6069	— 5.3
515	594	686	+33.2	Portland, Ore. CO	3500	3236	3529	+ 0.8
874	828	861	— 1.5	Providence AP	5213	4704	4967	— 4.7
588	597	506	—14.0	Roanoke, Va. AP	3782	3545	3945	+ 4.3
620	670	611	— 1.5	St. Louis CO	4098	3610	3999	— 2.4
741	767	871	+17.5	Salt Lake City AP	5099	4231	5549	+ 8.8
317	396	311	— 1.9	San Francisco CO	1996	1864	2114	+ 5.9
1302	1335	1379	+ 5.9	Sault Ste. Marie AP	7671	6994	7378	— 3.8
558	626	721	+29.2	Seattle CO	3595	3414	3598	+ 0.1
905	950	869	— 4.0	Toledo AP	5522	4967	5307	— 3.9
619	627	549	—11.3	Washington AP	3923	3525	3876	— 1.2

*Compared with normal. ‡Airport.

Distillate Fueloils

PRIMARY STOCKS*
(Thousands of Barrels)
East of Rockies

	Apr. 15 1955	Apr. 17 1954
East Coast	23,225	18,897
Midwest	17,047	15,804
Gulf Coast	12,649	10,966
Total	52,921	45,667

SECONDARY STOCKS**
(Thousands of Barrels)

	Feb. 28 1955	Feb. 28 1954
East Coast	7,535	8,208
Midwest	5,376	5,195
Gulf Coast	717	602
Mountain	463	490
Pacific	1,100	1,138
Total	15,191	15,633

*American Petroleum Institute. **Bureau of the Census.

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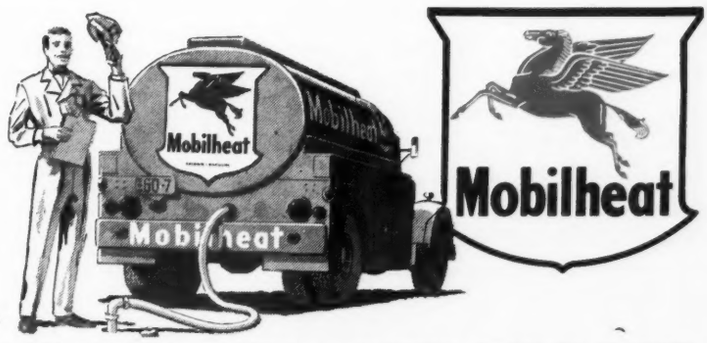

SOCONY-VACUUM OIL COMPANY, INC., and Affiliates: MAGNOLIA PETROLEUM COMPANY, GENERAL PETROLEUM CORPORATION

Government Influences on Fuels

by
Milburn Petty

WASHINGTON — Legislation to free independent producers of natural gas from federal controls has a good chance of being enacted—but with so many strings attached that it may become unpalatable to producers.

The bill, as introduced by Rep. Oren Harris (D., Arkansas), would exempt gas producers' prices from regulation but the Federal Power Commission would pass upon the "reasonableness" of prices in new or renegotiated contracts.

This reflected the recommendations of the Cabinet fuels policy committee.

Inevitably, the question was asked—why should not prices in existing contracts be subjected to the same "reasonableness" test?

Now, the pendulum has swung so far in the direction of "protecting" the consumer that some producers are wondering whether the final result will be worth the effort involved in pushing through this legislation.

Amendments to Gas Bill Urged

First, the gas transmission companies suggested amendments that would guarantee that they could pass along any increases by producers.

Next, the gas distributing companies demanded that price escalation clauses—except predetermined, periodic raises—be removed even from existing contracts. (J. French Robinson of Consolidated Gas said that, if a brake was not imposed on escalation, gas may be priced out of the market.)

Finally, came the consumer witnesses, representing scores of cities, who contended that producers should be regulated as public utilities with prices fixed on a "cost-plus-fair return" basis.

Gas Distributors Give Views

Typical of the gas distributors testimony was that of Donald C. Luce, president of the Public Service Electric & Gas Co., Newark, serving over a million customers of whom 14% use gas for central heating.

When natural gas became available at a cost which enabled his company to sell it at a price "reasonably competitive" with other fuels, new home builders installed gas heating equipment and the company spent over $128 million on mains, and other facilities, Luce told the Commerce Committee.

Luce said his company had expected that field gas prices would rise only from 5¢ to 9¢ during the 20-year contract but that escalation clauses, in pipeline contracts with producers, had increased prices to levels "which may make it impossible to sell gas to the ultimate consumer."

Asked why he had not checked on these contracts with producers, Luce said he had relied on the FPC and the pipeline companies on this.

"The price of gas should be 'fair' in relation to competing fuels," said Rep. Dies (D., Texas). "You would not want gas to be so cheap that it would drive coal out of the market, would you?"

Laughter from the audience drowned out whatever reply Luce had to this.

"Is it so bad for gas to have to compete with coal and oil," the Texan asked Luce. "Or should gas prices be kept so low that other fuels cannot compete?"

Attitude of gas distributors was that they had built up markets for producers, based upon a low price for gas in the field—and they want to hold it at that level except for periodic increases (such as the 4-cent increase spread over 20 years mentioned by the Public Service executive).

"You distributors have got to recognize that 20-year contracts must contain some protection for the producer," Dies said.

No producer in his right mind would tie up his gas production at a flat price, he added.

Luce admitted that he would not enter into a flat price contract to supply consumers with gas over the next 20 years.

"You have got to be fair to the producer. You can regulate him—but you can't make him risk his money to find more gas or force him to sell you the gas," Dies told Luce and other gas distributors, warning that federal control may dry up future supplies.

Time and again, committee members have pointed to the "great disparity" between field prices for gas and the price paid by consumers at the burner tip.

Rep. Klein (D., New York) said consumers in his area paid $2.37 for gas that cost 7.5¢ in Texas (with a 31¢ pipeline price at the city gate).

So far, the committee members do not seem satisfied with the answers.

Minimum Gas Prices Outlawed

Just what lies ahead for gas producers if Congress does not enact legislation freeing them from FPC's control was underlined by the Supreme Court's Decisions voiding Oklahoma's minimum price law for gas as applied to sales to interstate pipelines.

Citing its decision in the Phillips Case, the high court ruled that such sales were subject to exclusive regulation by the FPC.

Import Action Seen Likely

Indications are that some steps to limit oil imports—including residual fuel oil—will be taken, either through congressional action or by a voluntary program of some sort, sponsored by the government.

Impressive data has been assembled to "justify" continued importation of residual fuel oil to supplement domestic output—but it may be too late.

Diesels Cut Rail Coal Use

Competition of diesel locomotives with oil burners for distillate fuel was indicated by data from the Association of American Railroads showing 86% of passenger trains now hauled by diesels.

In 1946, coal burners hauled 52%, and oil, 26.2%, of the total.

Diesel fuel oil was the only major item purchased by the railroads to show an increase in 1954, totaling $307,772,000.

Expenditures for coal decreased from $148,774,000 in 1953 to $81,013,000 last year.

These figures lend strength to the argument that dieselization has cost the coal industry more tonnage than imported residual.

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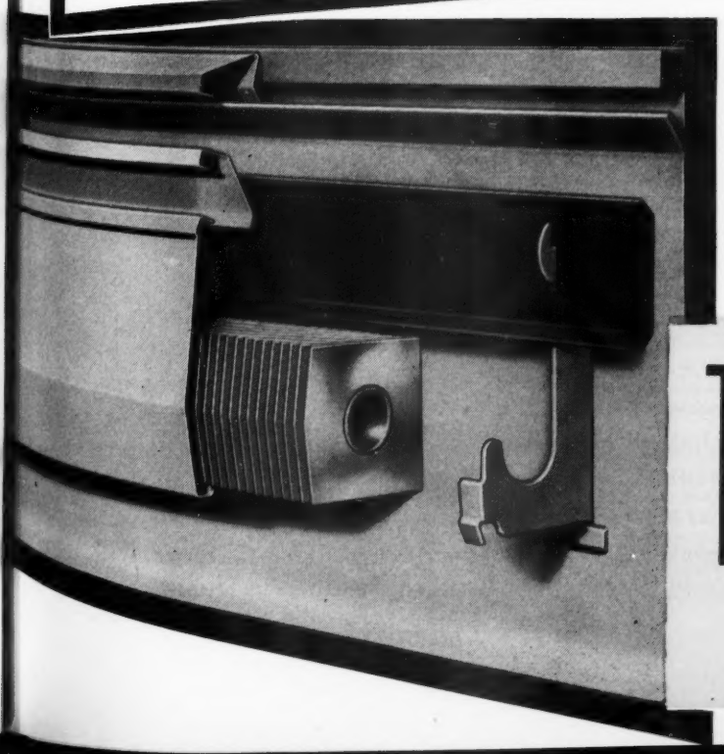

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Fifth of a Series
Boston

There were *131 in attendance at this, the 209th dinner-meeting of the Massachusetts Oil Heating Association held at the Hampton Court Hotel, Boston, on March 8. In order to get all of the group in the picture it was necessary to remove the tables and have the dealers turn around to face the camera. As a result officers and guests seated at the head table are the second row from the rear. Reading from left to right the head table group is identified: Director Charles McAlpine, Morton Oil Co., Malden; Vice-president William Bursaw, Bursaw Oil Corp., Salem; Guest Speaker Herman Winkler, U. S. Machine Div.; President Lawrence Williams, Scott-Williams Co., Quincy; Director Wilfred Hall, Heat Headquarters, Inc.; Past President and Director Tom Scott, Buckley & Scott Utilities, Watertown; Secretary Mrs. Catherine Woodbury, C. Y. Woodbury, Inc., Quincy and Treasurer Fred Brehm, General Oil Co., Medford. Seated in the second row, fourth from the left, is Fred Beckwith, one of the original founders of the Association. He is flanked by directors Dick Knox on his right and Francis Coan on his left.*

MOHA marks 26 Years of SERVICE

Catherine Y. Woodbury
Secretary

Massachusetts Oil Heating Association

THE MASSACHUSETTS Oil Heating Association Inc. grew out of the Boston Oil Heat Association, which was organized 26 years ago. As our industry grew and common problems and interests throughout the state indicated a need for wider representation, the Massachusetts Oil Heating Association Inc. was founded to serve as a clearing house and a voice for oilheating, fuel-oil, and allied interests serving the entire state.

Fred Beckwith was one of the original founders, and served as executive secretary of both Associations. In fact, he has been a real wheelhorse through good times and bad rallying members to action beneficial to the industry as a whole as well as to individual members. When his work with the Oil Heat Institute of New England made it advisable for him to devote full time to that work, he was made honorary secretary-treasurer of our Association.

He continues his interest in our organization and keeps us informed on any over-all developments or legislation affecting our members. Fred is held in affectionate regard by all of us, and his interest and advice is of incalculable benefit to us.

Since his official retirement, the position of secretary has been elective and rotates among the membership. Our present officers are: President, Lawrence Williams, Scott-Williams Inc., Quincy; Vice-president, William Bursaw, Bursaw Oil Corporation, Salem; Secretary, Mrs. Catherine Y. Woodbury, C. Y. Woodbury, Inc., Quincy;

Treasurer, Fred Brehm, General Oil Company, Melrose. Officers and directors are elected annually in May, with many re-elected to serve several terms in office. I am serving my third year as Secretary.

A general membership dinner meeting is held on the first Tuesday of each month at the Hampton Court Hotel, 1223 Beacon Street, Boston. On March 8 this year, we held our 209th meeting with 131 members in attendance. These meetings are informal and resemble large family gatherings, with competitors sitting side-by-side, exchanging ideas, discussing common problems, and just generally getting better acquainted. We disagree among ourselves, family style, but when real trouble strikes one of our "family," the entire group rallies to his aid.

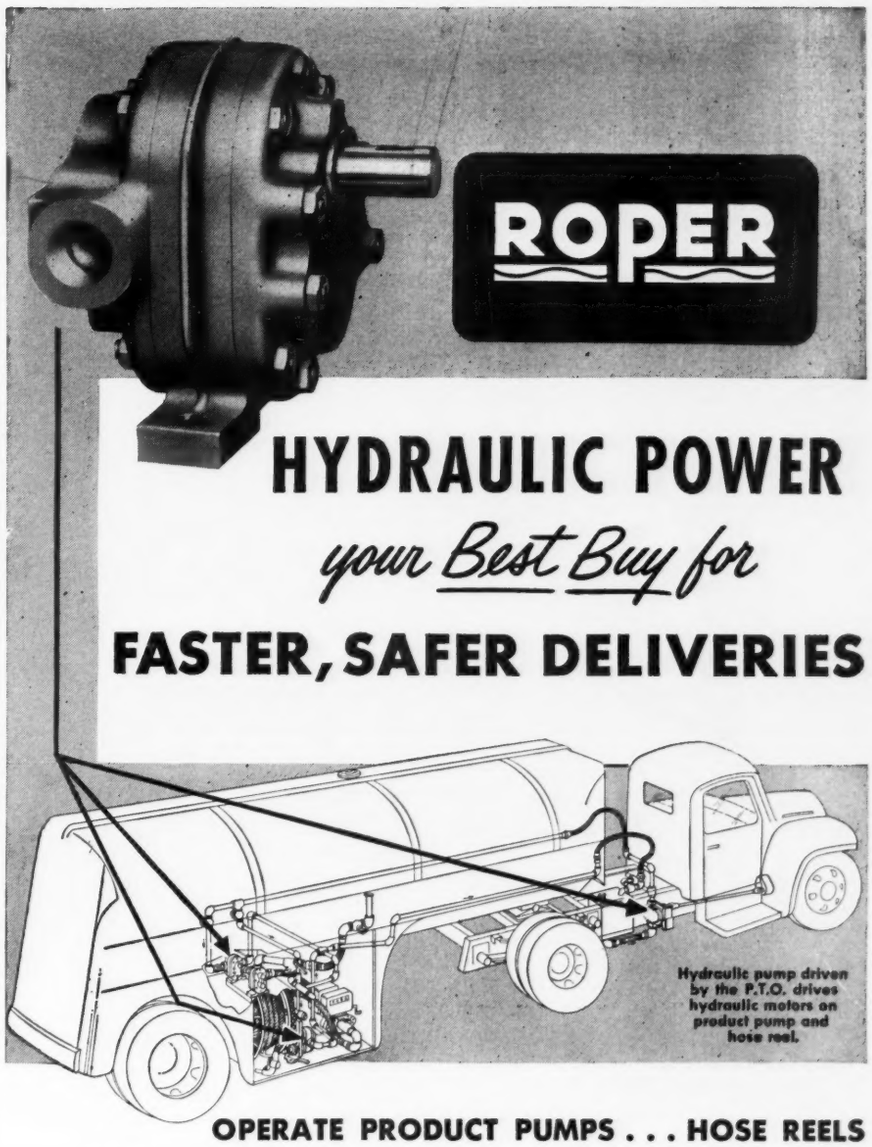
Main Theme: Oilheating

We have a first-rate speaker at each of our dinner meetings, and while the topics for discussion are varied, the main theme always is oilheating. Our May 24 meeting will be an outing and clam bake at the South Shore Country Club, Hingham, Mass., and will mark the end of our fiscal year.

The officers and directors meet monthly for lunch the week prior to the membership meeting, to discuss arrangements for a speaker, current industry problems, and general business matters to be taken up with the members at their next meeting.

Massachusetts Oil Heating Association, Inc. is a non-profit organization whose sole aim is the general welfare and growth of the oilheating industry in Massachusetts. We promote adherence to a code of ethics to maintain high performance standards among our members. Recently, we have formed a Better Home Heat Council, in which MOHA participates to raise and disburse funds to promote oilheating generally, and to deal with the overall threat of gas heating, now that natural gas is becoming available generally in New England.

Our Association, which has almost doubled its membership in the past three years, is progressive, one of the most active in the country, and alert to any and all factors affecting the growth and progress of its members.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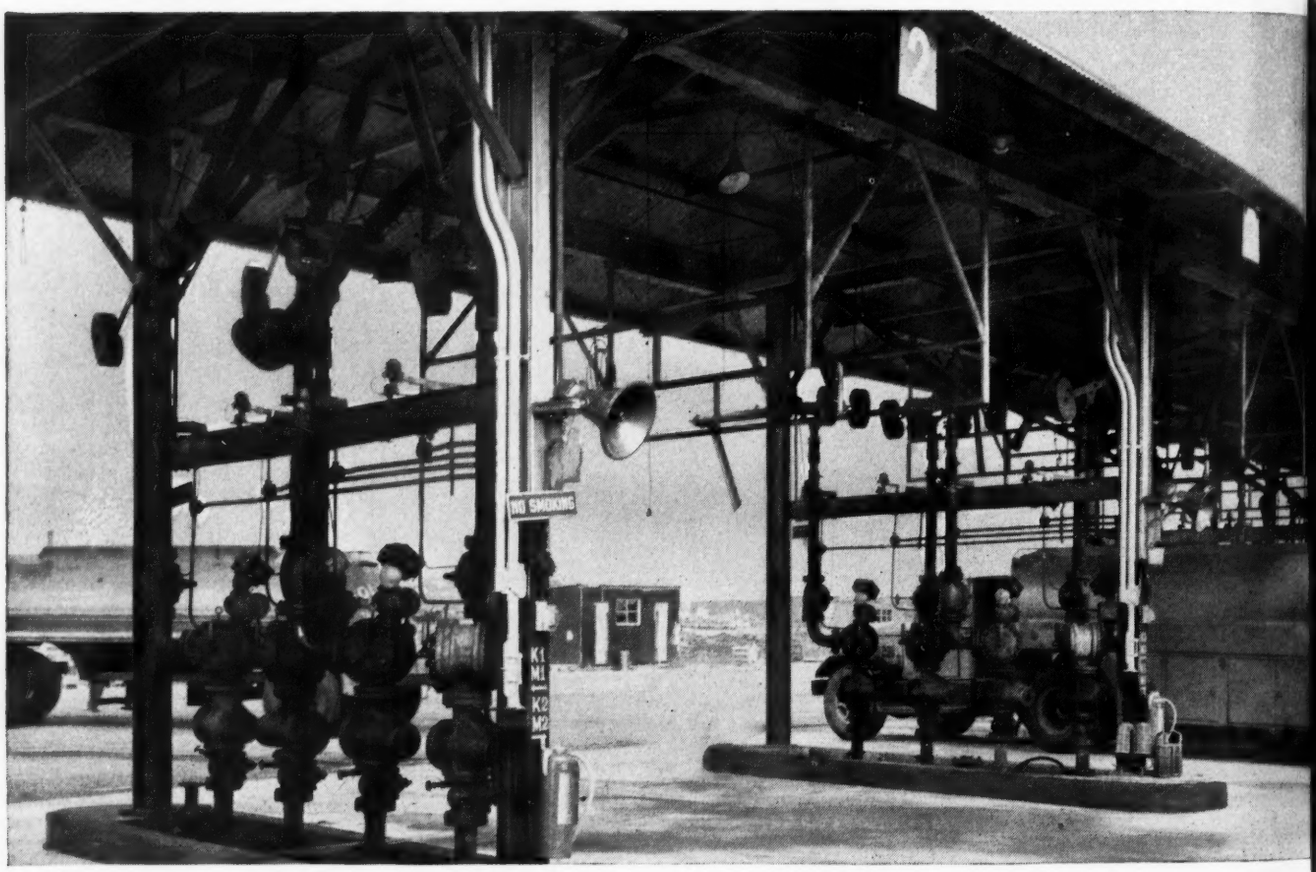

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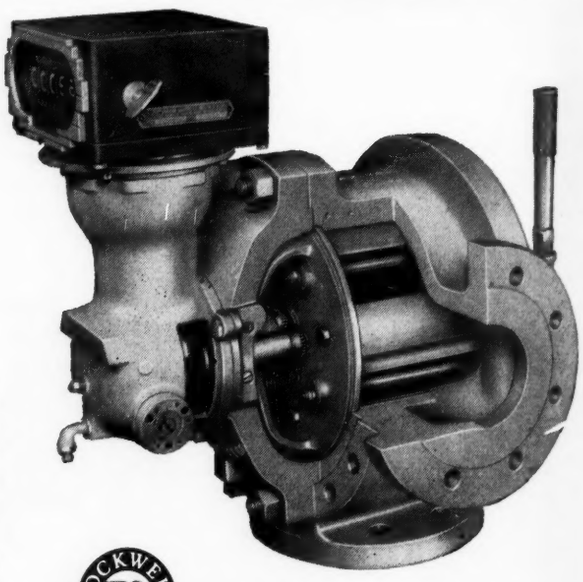

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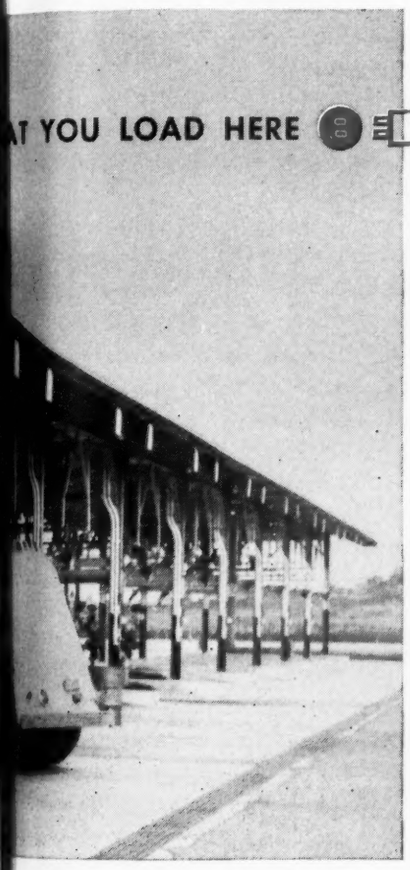

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Guiding truck traffic and keeping accounts straight in bulk storage plants can be a managerial headache. Now, there's a better way. It's the Rockwell Remote Registration System of metering. It offers some startling advantages and savings. It enables you to put the sole control over all metered outlets in the hands of one supervisor. He operates your entire plant from a control room overlooking the loading area. No product can be drawn until he inserts a ticket in the proper printing register and activates the matching electric circuit. At the completion of the fill, the unalterable printed ticket shows the exact gallonage loaded. These tickets curb stock losses by providing positive proof of actual deliveries. Multiple carbons can be used for inventory control, to verify tax payments and to form the basis for a completely mechanized accounting procedure. Write for bulletin OG-324.

This unalterable sealed-in ticket is mechanically printed by the remotely located register in the control room. It guards against human errors, doubts and losses—provides permanent indisputable records for all accounting purposes.

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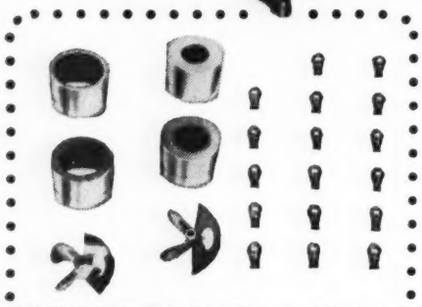

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Here's *one* burner you can stock instead of *three* – for it quickly adjusts to any capacity from .6 to 4.5 gph! Handles any job from a small home to a six-apartment building... gph can be quickly increased if the owner adds space.

Capacity changeover requires only two parts to be replaced: the choke ring and air diffuser. You get a complete set of these, as shown above, with each burner you order. Combine the correct two with any one of 17 commercial nozzles to get the gph rating you want!

Mt. Hawley ALL-IN-ONE (F45) comes in four burner tube lengths with universal flange or pedestal mounting. No complicated firing head or "hairline" adjustments – operation is simple, quiet, efficient. Weight: 52 lbs.

Your letter or postcard brings the whole story on this revolutionary new burner – at no cost or obligation. Don't put it off – write today!

See at Booths 784-785, NAPC Show!

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Rush full facts on the revolutionary Mt. Hawley ALL-IN-ONE (Model F-45) oil burner! I do not obligate myself in any way.

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Mt Hawley MFG. CO.
PEORIA, ILL.

Letter to Louise Fowler

by
Deane O. Eggert*

YOUR LETTER, "Another goodnatured Poke at Servicemen from a famous Housewife" appearing in the December, 1954 issue bears a challenge and a message to the people who install, service, sell and manufacture automatically operated equipment.

There are hundreds of thousands of people, like yourself, who have formed opinions (some good and some bad) of service personnel and installers based on experiences such as those your article so ably portrayed.

We are manufacturers of automatic controls for heating, refrigeration and airconditioning. Our company realizes the importance of service and installation personnel. We know that your satisfaction and safety are linked closely to the ability of service groups to do a perfect job.

The days of the negligent or haphazard servicemen are fast disappearing. Service and installation men are rapidly entering a new era of dignity and importance. There is constant change in automatic equipment and like any other profession the progressive service and installation groups are constantly seeking information. We believe the time is fast arriving when the people who work with automatic equipment will deserve the dignity of a title. May we suggest the title, Service Technicians.

The up-to-date, modern, Service Technician working in our industry, must know heating and refrigeration, airconditioning and the hundreds of "complaints" that can evolve from system operation. He must know how to satisfy you and hundreds of thousands of other people on a one call basis.

The tone of this letter may sound as if we are taking issue with your article; we are not. We are in agreement in most respects.

Service Technicians certainly do not like the "do it yourself" type of service; we feel you do not approve of it. We believe the financial profits you mention that you receive from a control manufacturer's stock will increase if laymen will leave automatic equipment alone.

Your article indicated that the product manufacturer who provided proper information to the people who work with automatic equipment would be taking an important step to improve the servicing of equipment. Realizing the importance of properly trained service personnel we created the Service Information Division. The Division was given a personality represented by the little chap (a caricature) Sid.

Sid provides unbiased information to all who work with controls. Sid has instructors, known as Service Supervisors, who hold informative schools and clinics in the areas where the men work. The schools and clinics are informal, all control questions asked are answered, and there is no "sales talk." The schools and clinics are free, no charges of any kind.

The men who register will periodically receive Sid's service bulletins and other material that will help them in their daily work—no cost to them.

After a school or clinic the men who register may require answers to a control problem they encounter in their work. At any time, if they write to Sid and state their question they will receive an unbiased answer in return.

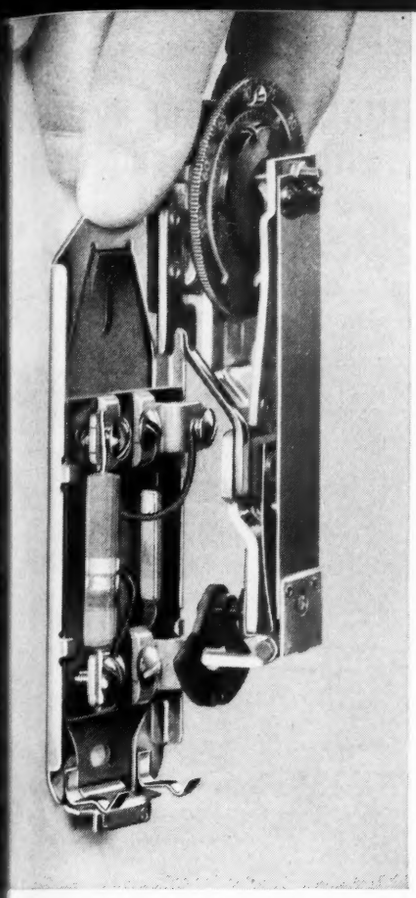
Schools are sponsored by progressive organizations such as wholesalers, trade or labor organizations. Clinics are sponsored by wholesalers, and the training mediums used include slides, displays and operating boards.

The Service Supervisor does not work from a canned talk. Before a school starts he determines the interests of the trainees and slants his instruction in a manner that will assist the majority.

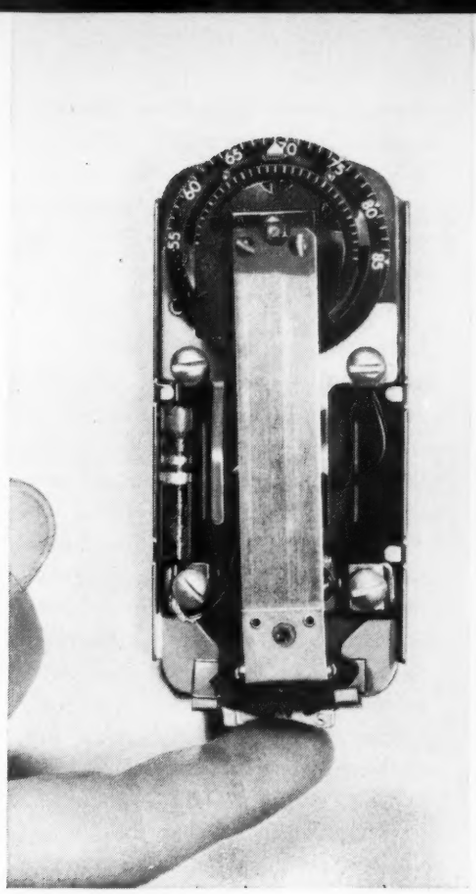
Mrs. Fowler, your article represented a user's viewpoint so ably that we asked permission to make copies available to our own personnel. There may be some people who would like to receive copies. We will make them available to all who write to Sid.

Mrs. Fowler, the men who attend Sid's schools are interested not only in

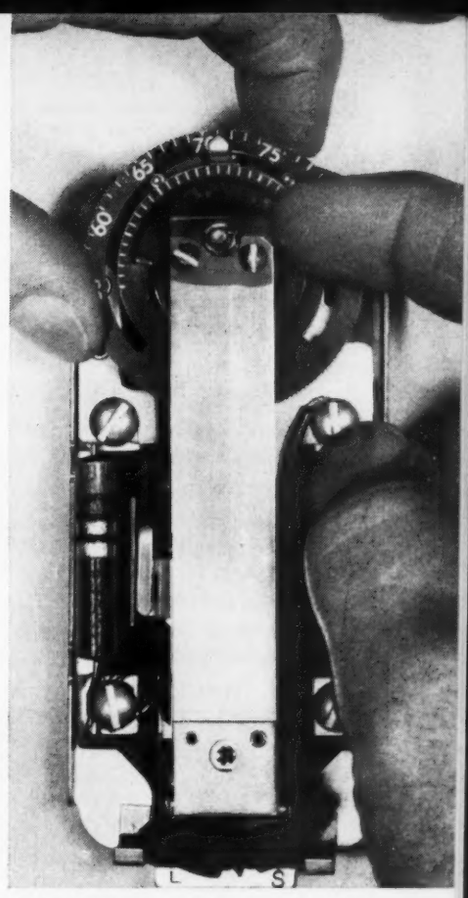
*Manager, Service Information Division, White-Rodgers Electric Co., St. Louis 6, Mo.



UICK MOUNTING and wiring of the new G-E oom Thermostat keeps on-the-job time at a inimum. The subbase is mounted separately, res are connected to the subbase, the operat- unit slides on . . . two screws are tightened . the plastic cover snaps on, and the instal- tion is complete.



SIMPLE ADJUSTMENT incorporated in the new G-E Room Thermostat serves to cut nuisance complaints and unprofitable call-backs. Length of cycling of the heating equipment can be varied from approximately 3 to 10 minutes by moving this differential or "comfort dial" lever. Adjustment can be made with cover on.

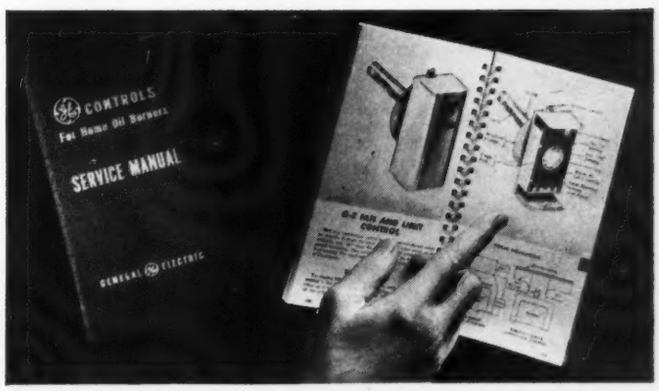


CALIBRATES WITHOUT TOOLS—another important feature of the new G-E Room Thermostat. Field calibration is accomplished by merely rotating the inner section of the dial plate by hand. The dial has large easy-to-read graduations from 55° F to 85° F.

New G-E Oil Burner Controls

EW G-E SERVICE MANUAL AVAILABLE

he G-E service manual is a handy set of instructions on he new G-E oil burner controls. The finest of its kind in he industry, it gives all the information needed for in- talling, servicing and replacing these simple controls. umerous wiring diagrams and servicing tips are in- luded. Sturdy leatherette cover and handy pocket size eans convenient carrying. Your free copy is available hrough your G-E heating control servicing distributor.



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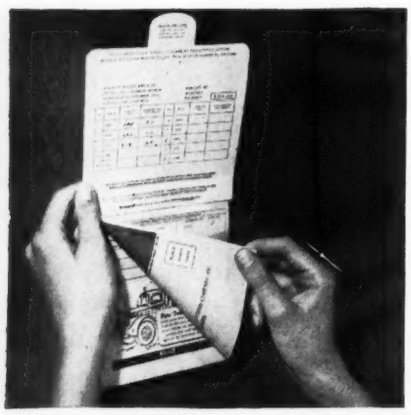

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State .....

the welfare of themselves, they are interested in users and in all of us. When they register with Sid they become members of the Sid Family, a progressive family dedicated to help others to the best of their ability.

❖

Lincoln Tech. Courses on service Techniques

TWO SIXTY-HOUR, fifteen week courses are being held by the Lincoln Technical Institute, Newark, N. J., on oilburner service, installation and repair.

The first course, F-1, is on domestic oilburner trouble shooting, and considers the various principles involved in servicing the lighter oilburners. Such subjects as "Principles of Oilburning"; "High pressure Burners"; "Minneapolis-Honeywell, Perfex, and electronic Controls," types of heating systems, testing, and combustion chambers are included in this course.

The second class is devoted to heavy oil service and maintenance and includes lectures on "Principles of burning No. 5 and No. 6 Oil," "Controls and Motors," "Pumps," etc.

The classes which started April 8 are held every Friday evening, and utilize lectures, demonstration and practical shop projects as the teaching methods.

❖

Exhibitors ready Booths for N.E. Show, June 7-10

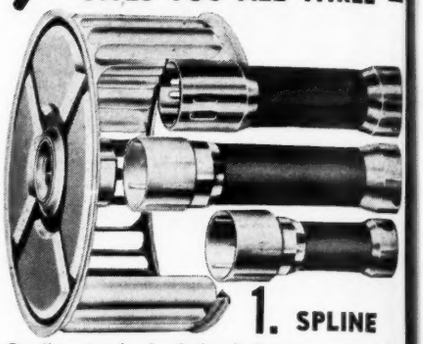
MANUFACTURERS AND SPONSORS are completing plans for the only burner exposition on the east coast to be held at the Hotel Statler in Boston, June 7-10. The Oil-Heat Institute of New England is making this an equipment show only, and plan no meetings.

The latest developments in oilheating are to be displayed. Light and heavy oilburners, boiler-burner and furnace-burner units, controls, accessories, supplies, boilers and fueloils will be shown.

Thomas G. Colter is chairman of the Eastern Biennial Exposition of Oil Heat and Domestic Cooling; Fred N. Beckwith is exposition manager.

It is estimated that some 5,000 dealers will attend the show. Hotel reservations for show week can be made through the Boston Convention Bureau, 80 Federal St., Boston 10, Mass.

QUALITY is our busines
..without *any* compromis
AND ONLY
Guardian
GIVES YOU ALL THREE –

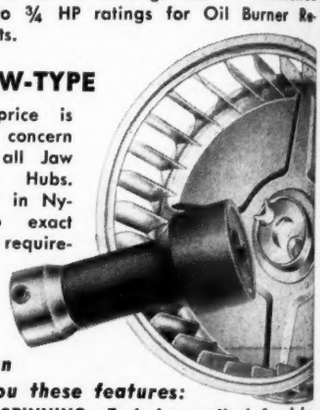


1. SPLINE
Quality standard of the industry — Available in Silent Tension Aluminum or DuPont Nylon.

2. REGULAR

Ultimate to correct misalignment — Furnished in 1/6 to ¾ HP ratings for Oil Burner Requirements.

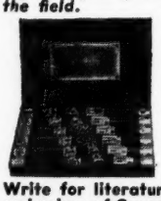
3. JAW-TYPE
Where price is of prime concern — Fits all Jaw (Lovejoy) Hubs. Available in Nylon to exact length requirements.



Only Guardian gives you these features:

1. **ROLL SPINNING—Exclusive method for joining all three components at one time—Actually made in position of final driving operation.**
2. **BRAIDED RUBBER—Ground to absolute true concentricity. Furnished with BUNA-N TUBE and NEOPRENE COVER. Holds to strict Lateral and Angular Alignment standards.**
3. **ONE-PIECE DESIGN—Minimizes assembly and handling costs—Cut to exact length requirements.**

There are over 4,000,000 Guardian couplings on original equipment. This is your assurance of highest quality and enthusiastic acceptance in the field.



COUPLING SERVICE KITS
Standard and Economy Kits complete with bushings for replacement. Lengths and bores meet 95% of existing field requirements.

Write for literature and prices of Guardian's superior line of tank valves. Most complete in oil burner industry. Soon with Fusible feature and Cast Brass for Price and Project requirements.

Guardian
PRODUCTS CO
COUPLING DIVISION

Dept. F-55, 1231 E. Second Street
Michigan City, Indiana

in Lawn Spraying?

J. A. LEONE & SONS, INC.
LAWRENCE, MASS.

"We've gotten better than 22% response from our Liquilawn direct mail campaign. Customers are welcoming the service ... and we are very confident of success this year."

J. A. LEONE, Jr.

LINDAHL ICE AND FUEL CO.
BELOIT, WISCONSIN

"Liquilawn advertising mats are pulling strongly for us. In one week we got about 100 responses! We're all excited about our prospects for the season!"

HAROLD LINDAHL, Partner

FUEL OIL COMPANY OF ST. LOUIS
ST. LOUIS, MO.

"We were probably the first major fuel oil company in the country to go into the lawn spraying business. We learned a lot about the business last year and feel that the strong merchandising and selling program offered by Liquilawn is the key to making lawn spraying pay off.

Our overall average in closing leads is running about 50%. In the best sections our rate of turning leads into sales is about 75%!

In addition, Liquilawn has arranged for regular TV advertising in our area in such a way that we only pay for sales results. We've joined a group of dealers in our area and all of us are really enthusiastic about the results we're getting."

W. F. SCHIERHOLZ, Jr.

Don't wait while competitors take your customers away . . .

there's still time to make money spraying lawns *this* season. Reap the success Liquilawn dealers are having with the dynamic Liquilawn selling program. We'll show you how to profitably start your program in mid-season . . . and get set for next year.

Send Coupon for Information

Culture Spraying Service

LIQUILAWN, INC. FOOH-5
11 West 42nd St., New York 36, N. Y.
Show me how to start my mid-season lawn spraying program. I'm interested.

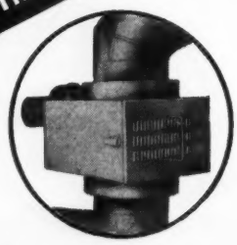
Name .....
Company .....
Address .....
City ..... State .....
No. of trucks .....

Sensational Hoskinson free heater

Reclaims heat being wasted up the chimney

heats cold, damp basements, drafty attics, attached garages

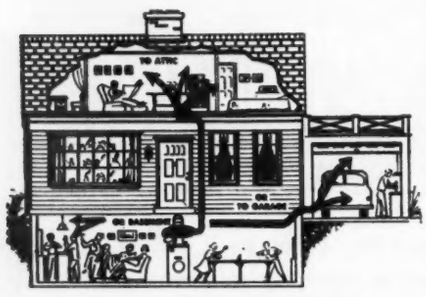
AT NO EXTRA FUEL COST!



Install it in the Flue Pipe of any Heating System

The Free Heater has been pre-sold via National Consumer Magazines. It's wanted by home owners across the country! Get this new business by contacting your jobber today.

Keeps the playroom, attic, workshop cozy without increasing home owner fuel bills.



Write for detailed bulletin F-2

HOSKINSON FREE HEATER
248-47 JAMAICA AVENUE,
BELLROSE, L. I. , N. Y.

Emphasize Service, Selling at Philadelphia Meeting

IMPROVED OILBURNER SERVICE and better selling methods were the main points discussed by the Fueloil & Oil Heat Forum held at the Fourth Annual Convention of the Greater Philadelphia Fuel Conference, April 20 at the Bellevue-Stratford Hotel, Philadelphia, Pa.

Speaking on "Painless Burner Service—Now or Never," H. M. "Herb" Spade, general manager, Oil Heating Division, E. Robison, Inc., Hartsdale, N. Y., told the group that failure to find a satisfactory solution to the problem of efficient service would result in a switch to one of the competitive fuels, and that fueloil companies must take it upon themselves to provide this service if the oilheating dealer does not.

Oil in Westchester

Tracing the history of the influx of natural gas into the Westchester, N. Y. area, Spade said that back in 1948 the fueloil men in that section decided that the basic failures in oilheating lay in installation and service practices.

To remedy the situation, Spade told the oil men that his group inaugurated a series of installation and service schools, cooperative advertising campaigns, and stressed the importance to their employees of the various means for checking efficient burner operation.

Another road-block that the Westchester group ran into, Spade noted, lay in the difficulty in making people realize that since an oilburner is a machine, it needs a check-up once in a while. As a consequence, the biggest problem Westchester men faced was getting into the home to make the check-up.

After trying a number of service plans, Spade said that his organization had eventually gone into budget plans plus service contracts, and that now 80% of their customers are on such "overall" contracts.

As a result of this vigorous program, Spade pointed out that while in 1949 natural gas was being installed in almost all new homes, today oilheating gets 1/3 of the small homes, ½ of the middle size houses, and 2/3's of the larger units.

Spade re-emphasized the point that it is up to the fueloil companies to provide service. He remarked that since there was little profit to be had from service, the fueloil organizations had no right to expect someone else to carry the burden of servicing the units which burned their product. Drawing the analogy of the gasoline station that did not provide free air, windshield wiping, etc. and failed, Spade felt that the fueloil company which followed the same course would also end up in the same way.

By providing a little preventive maintenance or service, Spade said his company had reduced service costs to $2.25 per year per burner, and that the only one who profited by a burner failure, no matter what the cause, he concluded was the competing fuels.

I. M. Nelson, national field representative, Boston Machine Works, Lynn, Mass., spoke on the subject "Oil Heat—Now You Must Know How to Sell It."

Assure automatic Heating

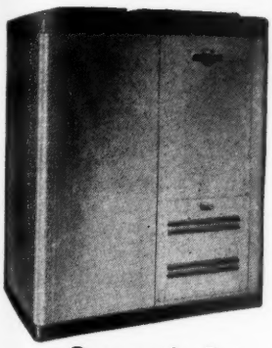
Since it was oilheating as an industry that sold the homeowner on automatic heating, Nelson told the Philadelphia oil men, it was up to the industry to see to it that the homeowner received automatic heating.

As a prerequisite, then, to selling, Nelson felt that the oilheating company should have a substantial background of successful installations if it planned to continue in operation. Such was not always the case, he continued, and he noted that a survey made in the Boston area found that on the average burners were running at only 35% thermal efficiency.

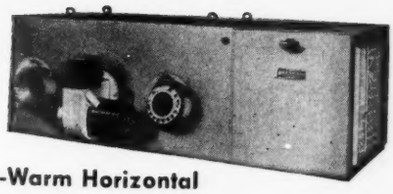
As a result, the oilheating veteran felt that a review of the basic installation steps was in order. He listed them as follows:

1. Check the firing rate of the oilburner to be installed, and fire accordingly.

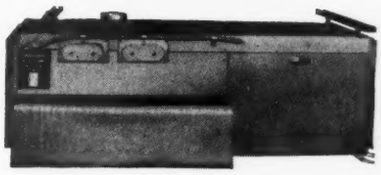
2. Check the air valves on the radia-



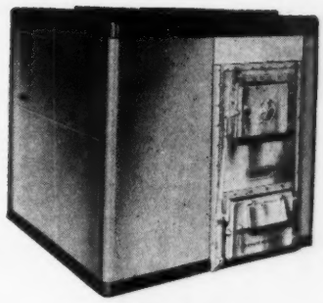
Gasaver Lo-Boy



Oil Flo-Warm Horizontal

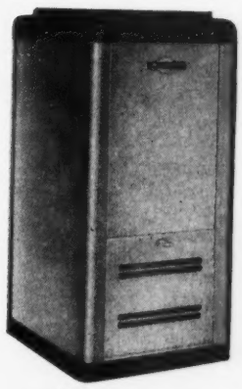


Assembled
Gas Horizontal



Coal Flo-Warm

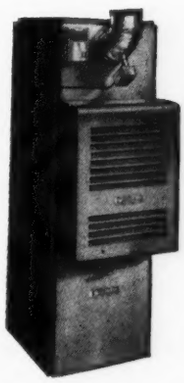
Oilsaver Lo-Boy



Gasaver Gravity

Assembled
Gas Lo-Boy

Assembled
Oil Lo-Boy

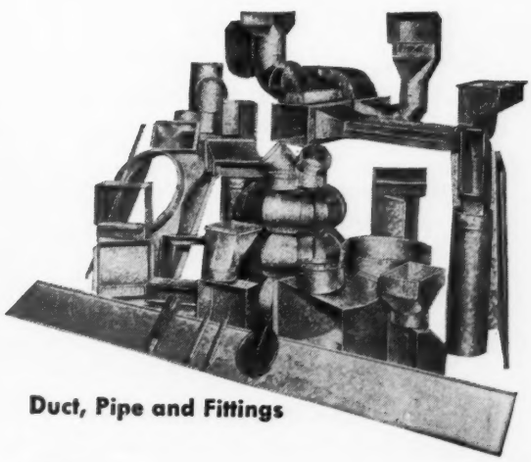


Assembled
Oil Hi-Boy

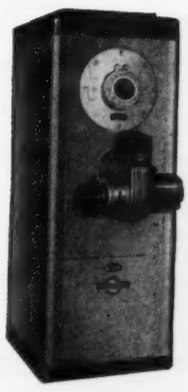
Assembled Oil
Counter-Flow

Assembled
Gas Hi-Boy

Gas Flo-Warm Lo-Boy



Duct, Pipe and Fittings



Oil Flo-Warm
Hi-Boy

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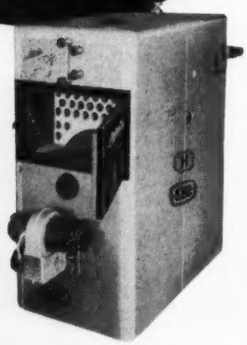
MODEL "500" Only 42¼" high, 19" wide, 41" long. Has heavy duty 3 gpm tankless water heater.

MODEL "600", slightly larger with capacity to 4 gpm.

Fire Completely Surrounded By Water. This Increases Efficiency—Lowers Fuel Costs—Lowers Stack Temperature.
Everything You Need Completely Pre-Wired And Assembled In One Package. Shipped With Skids And In Protective Carton.

STEEL OIL BURNING BOILERS



FIRE TUBE DESIGNS for homes and small commercial and industrial buildings. Sizes up to 3000' of steam. Easy access for cleaning. Rolled in tubes. WATER TUBE DESIGN (not shown). Made in four sizes with capacities to take care of 90% of heating installations. Available for hot water or steam.

The Only Boilers In This Range Of Sizes With Wet Base. Furnished With The Popular Atlantic Burner.

Write, wire or call for complete details today on the popular Atlantic Steel Boiler line.

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STEEL BOILER CO.

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tors, especially those with the smaller openings.

3. Check the entire heating unit, such as the piping system. If repairs are needed, bring the homeowner down into the cellar and tell and show him why his unit needs the changes.

4. Check the combustion chamber. Nelson felt, from a personal viewpoint, that insulating brick was the best type of material since it reached the red-hot condition in the quickest time.

5. Check the baffle. He remarked that from his own experience he found baffling necessary on gun type burners and that it should generally run about 10" above the top of the combustion chamber.

6. Check the draft control.

7. Check the nozzle. He emphasized that the nozzle must be able to match the air pattern as closely as possible.

Turning to selling the burner, Nelson prefaced his remarks by noting that one burner can be as good as the next depending on how well it is installed.

Nelson told the group that they are selling oilheating, not just the oilburner, and that this should be a key point in the salesman's attitude. He warned the organization that the average homeowner is generally a very intelligent individual or otherwise he would not have his own home, and as a result to act accordingly.

Emphasizing that the oilheating dealer was not only selling an oilburner, but his reputation and experience gained over many years, Nelson said that the successful salesman told his customers why they should buy oilheating, why, when repairs were needed, they should change their present unit, and why service is needed.

He stressed the point that most homeowners buy oilheating much the same way they do automobiles, and that they are interested in all the various angles that make up home heating.

In summing up his talk, Nelson once more reiterated the point that the oilheating man is not only selling his unit and industry, he is selling his background, his training, his experience, and himself.

The concluding speaker on the Forum, John C. Campbell, Marietta Metal Products, who also acted as moderator, discussed the recent results of the Fuel Conference's Oil Heat Public Relations Program.

As examples of the program's effectiveness, Campbell read ten testimonials from contractors, oil heat dealers, fueloil men, and a report about the Philadelphia Gas Works which showed that the original target of 22,000 gas installations per year, had been reduced to 15,000 for 1955. He also reported to the group that the Delaware Valley Oil Heat Association had decided to take part in the public relations program.

Other speakers during the day included Dr. John H. Furbay, director, Air World Education, Trans World Airline, New York, N. Y., who spoke on "At Home in One World," at the luncheon meeting, and G. H. Thomas, Jr., president of the Conference who presided at all meetings.

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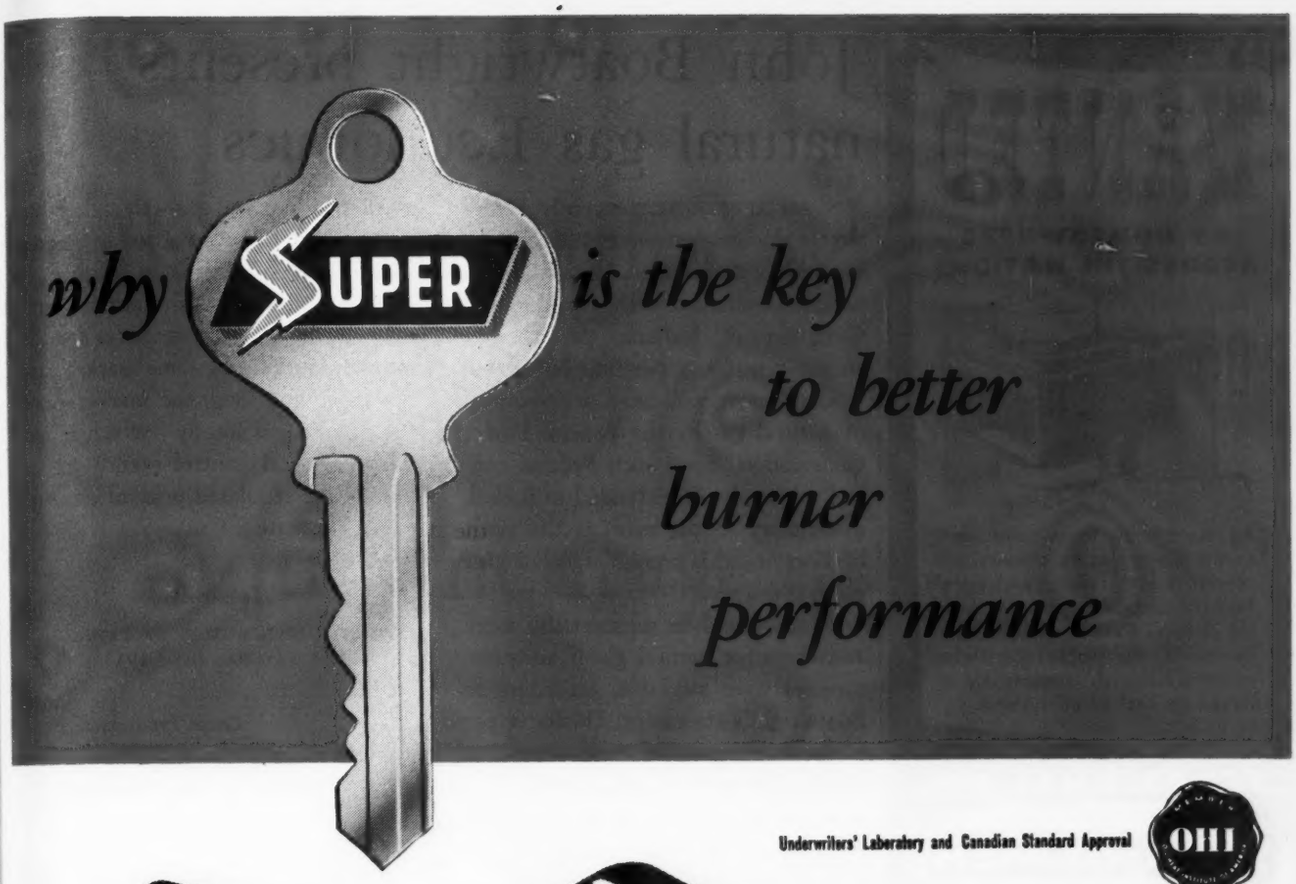
Penn Boiler acquires Quiet May Burner Div.

QUIET MAY OIL BURNER Division of American Oil Co. has been acquired by Penn Boiler and Burner Manufacturing Corp., Lancaster, Pa., according to an announcement by Albert Morrison, Jr., Penn's president. He said that Quiet May, one of the country's oldest oilheating brands which has been actively advertised for more than 30 years, will be operated as the Quiet May Division of the Penn company.

Effective date of change was May 1. Morrison emphasized that personnel will be retained. R. W. Peyton, Penn's assistant sales manager, will head the division with offices in the Lancaster plant.

The present line of burners and boiler and furnace units will be continued. Morrison pointed out that this acquisition will benefit both organizations. The change is being made without interruption of production or delivery schedules since all Quiet May and Amoco burners have been manufactured by Penn under contractual arrangement with the American Oil Co. for the past three years.

"It is our intention," said Morrison, "to implement the expansion of this fine old oilheating brand by every means at our disposal."



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Quality—Performance—Dependability—Long Life

These are the 4 factors that make SUPER Transformers "pay off" in better burner performance.

Highest quality materials together with the technical know-how of transformer specialists combine to give SUPER a performance rating unmatched in the industry, performance plus with SUPER's patented radio and TV shielding—you need never worry about static.

Union's new positive method of encapsulation locks out moisture . . . forever, proof again of Union's leadership in providing a super transformer that is dependable and highly efficient. And SUPER stands the test of time. All these "plus" features add up to years of trouble-free operation and finest burner performance.

Transformers are guaranteed for 2 years. Write for details today!

UNION ELECTRIC and MANUFACTURING CO.

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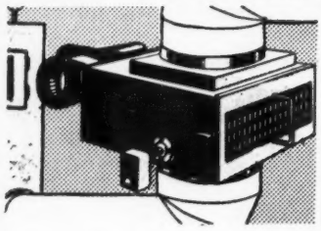
WANTED

BY HOMEOWNERS ACROSS THE NATION!



An opportunity to re-claim waste heat now going up the chimney, and convert it into safe, clean, instant heat to supplement present heating or convert attics, garages, dens, basements into livable quarters at no extra fuel cost. Inexpensively installed on coal or oil systems.

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STAK-HEAT IS FREE HEAT

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DEALERS TO TAKE OVER FRANCHISED TERRITORIES!

There's new profit, there's new business in smoke. This new, modern engineering achievement is factory tested, assembled and completely guaranteed. Get the deal on the original, the biggest profit-maker! Write for information on protected dealerships, on protected territories!

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John Boatwright presents natural gas Economics

IN AN APPEARANCE recently before the House Interstate and Foreign Commerce Committee, John W. Boatwright, economist for the Standard Oil Company of Indiana, presented a strong case for a pending bill which would remove well-head price control of natural gas by the Federal Power Commission. Since such Federal control might also be extended to fueloil, a summary of the main points made by Boatwright is presented as being of general interest.

There would be substantially more customers for natural gas if adequate supplies were available, according to Boatwright's statement. During a period of rapid price increases generally, the price of natural gas in comparison with prices of competitive fuels is an important factor why consumers look with increasing favor toward gas.

Strong competition in the natural gas market, Boatwright stressed, accounts for the independent behavior of natural gas prices—and this in turn has been a distinct economic advantage to consumers. In numerous markets, the cost of natural gas per million Btu's is about the same as or lower than the price of competing fuels. (See Table I.) If controls were in effect, natural gas prices would not have been so independent.

Looking at the distribution pattern, Boatwright reported that the local market for natural gas—though it has declined in recent years due to greater out-of-state movement — still represents 50% of the total marketed production. Since different prices for the same product in the same market cannot exist very long, the market price for natural gas locally—which is not under Federal control—tends to influence the regulated price of gas sold out of the state.

Table II

ESTIMATED DISTRIBUTION OF PRODUCTION OF NATURAL GAS—1953

	Billion Mcf
Gross Production	10.6
Interstate Movement, Consumption	4.2
Intrastate Consumption	4.2
Repressuring	1.4
Waste and Losses	.8

Boatwright pointed out that consumers were vitally concerned with the future of natural gas supplies and that an unduly low price on gas would hinder its conservation at the well head and so waste the resource. Using Table III he showed the steady growth of demand and emphasized that new supplies proved each year tended to be lower relative to that year's demand. Table IV demonstrates that new supplies have declined in relation to net production.

The economist feels that the showing of last year (when new supply

Table I

INDEX OF RETAIL PRICES OF COMPETITIVE FUELS
(1935—1939 = 100)

Year	*Gas*	*Anthracite*	*Bituminous Coal*	*No. 2 Fuel Oil*
1938	94.3	99.3	101.8	105.6
1939	94.0	98.4	101.1	96.1
1940	93.1	102.7	102.0	100.8
1941	91.5	108.5	108.2	103.4
1942	89.8	112.5	113.8	118.6
1943	89.6	119.5	118.7	128.9
1944	89.1	126.8	123.1	129.1
1945	88.4	130.7	125.7	123.3
1946	87.5	145.0	132.4	124.2
1947	88.4	157.3	156.5	148.2
1948	89.2	176.6	186.2	188.6
1949	90.4	188.7	193.1	178.8
1950	90.7	195.9	200.2	180.7
1951	91.6	214.9	204.6	191.0
1952	94.6	218.3	208.6	195.4
1953	99.6	233.4	212.9	205.5

Source: Bureau of Labor Statistics.

..reliable operation with

WEBSTER

Equipment"—*said Leonard Olsen, President, Roosevelt Heating Company, Seattle, Washington*

"Everyone in our company, including fourteen service men, is happy to sell WEBSTER Fuel-units, Transformers and Delaytrols. We feel that when we sell WEBSTER equipment we are giving the public a product that is reliable—that will do what we say it will do. And we know that public reaction to WEBSTER equipment will help to keep our business growing.

"The WEBSTER Fuel-unit is easily repaired in the field . . . we don't have to spend too much of our time and the customer's money to keep it operating at top performance. Therefore, we like to use WEBSTER Fuel-units for all replacements. And the interchangeability of WEBSTER equipment allows us to keep a relatively low parts inventory."

• • •

Specify WEBSTER Fuel-units and Ignition Transformers on the burners you sell, to keep your customers and service men happy. The manufacturer of your burners will be glad to equip them with these superior units.

Write today for WEBSTER Bulletin E2A2, giving complete replacement data

SIMILAR FUEL-UNITS ARE MADE FOR SALE IN CANADA BY CANADIAN ACME SCREW & GEAR, LTD., OF TORONTO
UNDER LICENSE BY WEBSTER ELECTRIC COMPANY

WEBSTER ELECTRIC

RACINE, WISCONSIN

IGNITION TRANSFORMERS AND DELAYTROLS

WEBSTER W ELECTRIC

ESTABLISHED 1909

"Where Quality is a Responsibility and Fair Dealing an Obligation"

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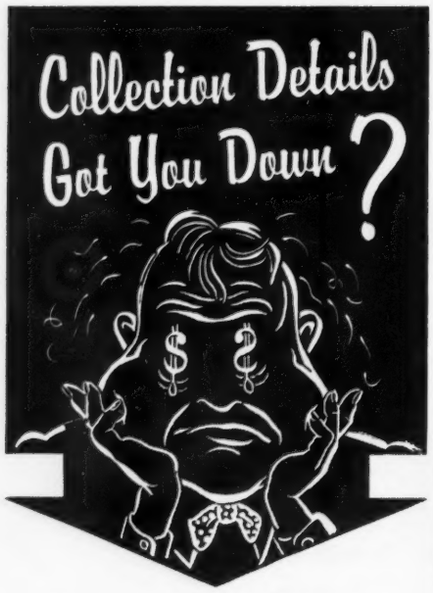

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A complete, reasonably priced, package deal. Cuts office details - - Saves time and trouble.

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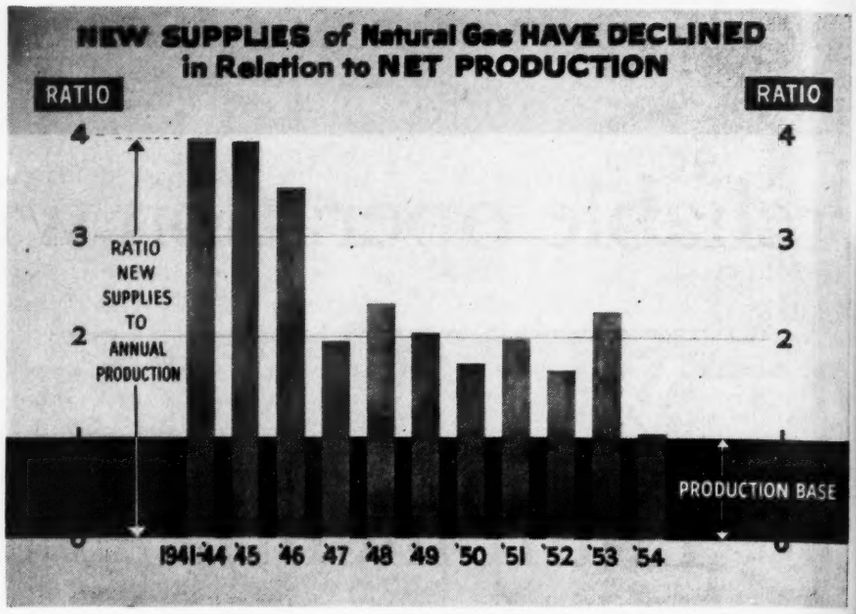
NEW YORK


NEW SUPPLIES of Natural Gas HAVE DECLINED in Relation to NET PRODUCTION
RATIO
RATIO
4
3
2
RATIO NEW SUPPLIES TO ANNUAL PRODUCTION
PRODUCTION BASE
1941-44 '45 '46 '47 '48 '49 '50 '51 '52 '53 '54

added during the year dropped to 9.7 trillions of cubic feet from '53's 20.9 trillions of cubic feet) was possibly due to uncertainty about the Phillips case. Yet more wells were drilled by the industry. He said: "I know that that the industry cannot long continue this experience without eating into its bank account of reserves."

Boatwright stressed that the majority of wildcats are drilled by independents who face a 1 to 9 odds in getting a producer. He questions that the price of gas will be set high enough on successful wells to compensate for such odds.

Another point emphasized by Boatwright is the relatively small part field price represents in price paid by consumers. The average consumer price paid declined more or less steadily from 1938 and reached its lowest level ten years later. (See Table v.) The introduction of natural gas in manufactured gas markets reduced distribution costs and prices were maintained at the

Table III

NEW SUPPLY OF NATURAL GAS
COMPARED WITH NET PRODUCTION AND WITH FIELD PRICE
(Trillions of Cubic Feet)

Year	*Net Increase In Reserves During Year*	*Net Production*	*Total New Supply Added During Year*	*Average Field Price (Cents Per Mcf)*
1941–44	12.1	4.1	16.2	5.1
1945	14.3	4.8	19.1	4.9
1946	12.8	5.2	18.0	5.3
1947	5.4	5.7	11.1	6.0
1948	7.9	6.0	13.9	6.5
1949	6.5	6.3	12.8	6.3
1950	5.2	7.1	12.3	6.5
1951	8.2	8.3	16.5	7.3
1952	5.9	8.9	14.8	7.8
1953	11.7	9.2	20.9	9.2
1954	0.3	9.4	9.7	10.0

Table IV

NEW SUPPLIES OF NATURAL GAS
HAVE DECLINED IN RELATION TO NET PRODUCTION
(Trillions of Cubic Feet)

Year	*New Supply Added During Year*	*Net Production*	*Ratio New Supply To Net Production*
1941–44	16.2	4.1	4.0
1945	19.1	4.8	4.0
1946	18.0	5.2	3.5
1947	11.1	5.7	2.0
1948	13.9	6.0	2.3
1949	12.8	6.3	2.0
1950	12.3	7.1	1.7
1951	16.5	8.3	2.0
1952	14.8	8.9	1.7
1953	20.9	9.2	2.3
1954	9.7	9.4	1.0

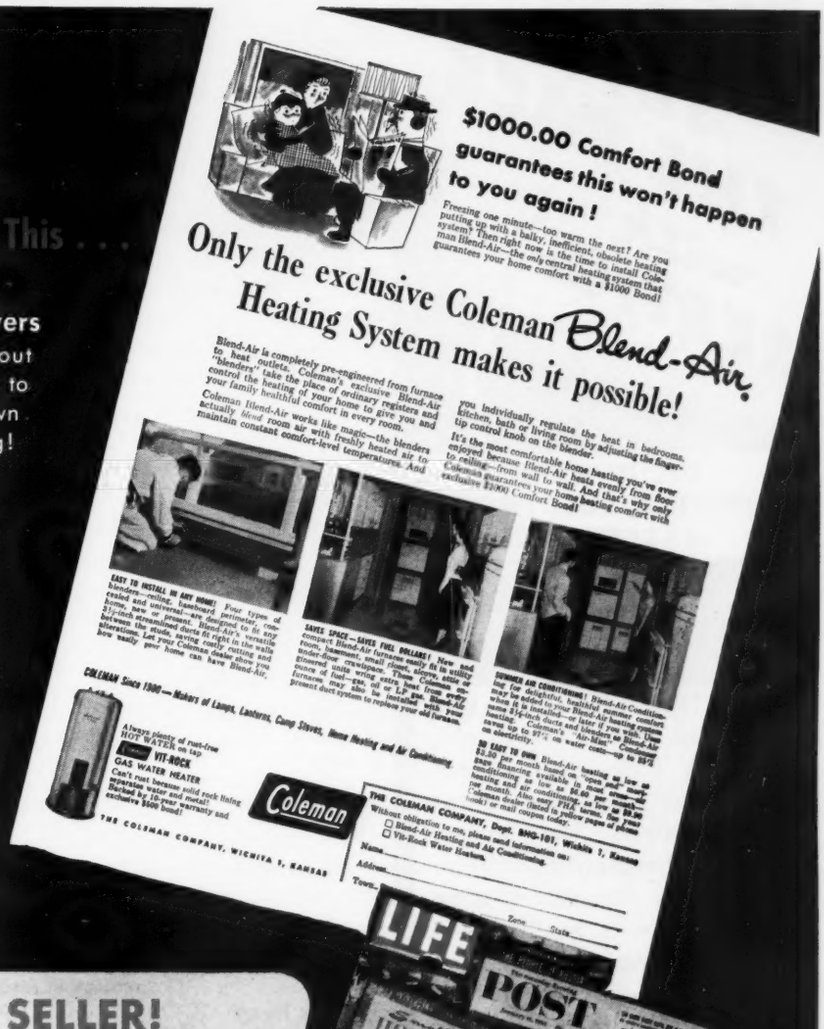
Bond Helps You SELL!

How COLEMAN Advertising Helps You SELL with Big FULL PAGE Ads Like This . . .

1 To Home Owners and Future Buyers Month after month, prospects will read about Blend-Air's exclusive features—how easy it is to install in new home or old, and how easy to own on easy FHA or "open end" mortgage financing! Be ready to close these sales!

To Builders—Builders will read how they can guarantee comfort to their prospects when you install Blend-Air heating for them. Recommend Blend-Air on your bids and get extra sales! Ask about "Portfolio of Home Merchandising Ideas for 1955."

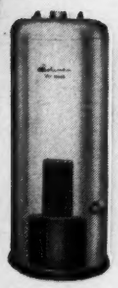
2 COLEMAN Helps you "close" these sales with the biggest, hardest-hitting promotion program in its 55-year history! Broadsides, product films, signs, displays, demonstrators, ad mats—so many it takes a whole book to list them all!


$1000.00 Comfort Bond guarantees this won't happen to you again!
Only the exclusive Coleman Blend-Air Heating System makes it possible!
Coleman
THE COLEMAN COMPANY, WICHITA 1, KANSAS

another FAST SELLER!

COLEMAN Vit-Rock Gas Water Heater

with "JET RECOVERY" action



Easy to sell because only Coleman puts a solid, patented rock wall between water and metal. Can't rust! And "jet recovery" gives over 200 gal. hot water daily from smallest models!

Backed by 10-Year Warranty and EXCLUSIVE **$500 Bond!**

put Coleman to work for you, too!

GAS • LP-GAS

The Coleman Company, Inc., Dept. FOH-151
Wichita 1, Kansas

I want to know more about how the Blend-Air System, Blend-Air Furnaces and Air Conditioners can increase my sales. Have your distributor's representative call on me.

Name_____

Firm Name_____

Address_____

Town_____ Zone____ State_____

MAIL COUPON TODAY!

The Coleman Company, Inc.

WICHITA, KANSAS

home heating and air conditioning.

DIELECTRIC
SETS
THE PACE
with
SERVICE
OIL BURNER
IGNITION ELECTRODE
ASSEMBLIES
DIELECTRIC offers the only complete line of top-quality ignition electrode assemblies, bus bars and fittings — maintains the largest stock of the greatest number of designs for day-of-order shipment — is equipped to supply manufacturers' new designs quickly, in any quantity. Uniformity of production is assured by use of specially developed automatic machinery. You can be sure of satisfactory service with DIELECTRIC products. And the prices are always right.
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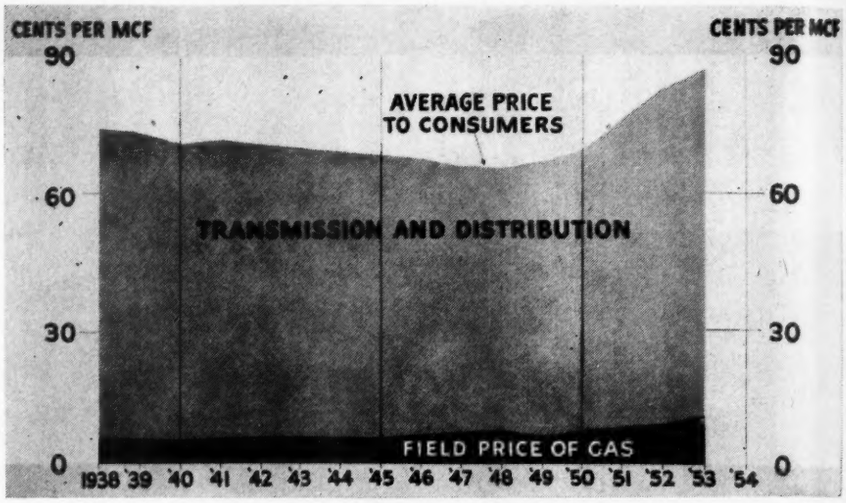


Field Price Is Only A Small Part Of Residential Consumer Price

Table V

FIELD PRICE IS SMALL PART OF RESIDENTIAL CONSUMER PRICE
(U. S. Average)

Year	*Field Price*	*Residential Consumer Price*
1938	4.9¢/Mcf	74.2¢/Mcf
1939	4.9	73.5
1940	4.5	71.1
1941	4.9	72.0
1942	5.1	70.7
1943	5.2	70.0
1944	5.1	69.1
1945	4.9	68.3
1946	5.3	67.6
1947	6.0	65.6
1948	6.5	65.3
1949	6.3	67.1
1950	6.5	69.0
1951	7.3	76.0
1952	7.8	83.1
1953	9.2	86.5

Source: Bureau of Mines.

same or even reduced rates. Companies built up their loads and expanded their markets. These expanded markets gradually built up prices paid for new supplies.

Higher charges to consumers coming after 1948 have not been brought about by higher field prices, says Boatwright. They have been brought about by the higher prices of all the factors —steel supplies, labor, taxes—that enter into the distribution, transportation and production of natural gas.

The industry has contended that the producers receive approximately 10% of the price paid by the consumer. Other sources claim that the wellhead

Table VI

RANGE OF PRICES PAID UNDER CONTRACTS EXECUTED IN 1952-53 BY MAJOR PRODUCING AREAS
(Percentage of total contracts below indicated prices)

Price Range Cents/Mcf	*Appalachian*	*Panhandle-Hugoton*	*East Texas-North Louisiana*	*Louisiana-Texas Gulf Areas**
3- 3.99¢				2.4%
4- 4.99			1.7%	2.6
5- 5.99			8.3	9.1
6- 6.99			13.2	34.1
7- 7.99		15.8%	20.7	39.7
8- 8.99		34.2	33.9	45.3
9- 9.99		55.3	47.1	71.5
10-10.99		73.7	55.4	93.8
11-11.99		86.8	66.1	94.7
12-12.99		89.5	100.0	97.3
13-13.99		92.1		99.7
14-14.99		92.1		99.7
15-15.99		92.1		100.0
16-16.99		92.1		
17-17.99		100.0		
18-18.99				
19-19.99				
20-20.99				
21-21.99	2.4%			
22-22.99	2.4			
23-23.99	2.4			
24-24.99	2.4			
25-25.99	33.3			
26-26.99	33.3			
27-27.99	97.6			
28-28.99	100.0			

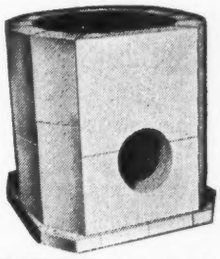
Source: Annual Carrier Reports to Federal Power Commission.
*Includes Permian Basin producing area.

Make money on every job

with these A. P. GREEN...

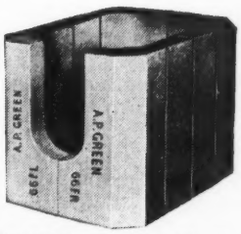
Combustion chambers

QUICK-EASY TO INSTALL



STANDARD IFB Combustion Chamber

ASSURE EFFICIENT OPERATION



STREAMLINED Combustion Chamber

COST NO MORE THAN ORDINARY CHAMBERS

PERFECTO Combustion Chamber

SIZES TO MEET EVERY OIL BURNER REQUIREMENT

OIL BURNER Baffle Brick

HIGH TEMPERATURE Insulations

STANDARD IFB Combustion Chamber

Requires minimum installation time. Front tile is in two pieces with burner opening already cut. Packed in special container that guards against breakage in shipment. Everything you need is in the carton, including a 5-lb. can of 'SAIRSET high temperature mortar.

STREAMLINED Combustion Chamber

Conforms to the natural shape of the flame and eliminates "dead corners." Provides more quiet operation. The ease of installation makes the installed cost of a STREAMLINED Chamber no more than that of an ordinary type of chamber. 5-lb. can of 'SAIRSET included in specially designed protective package.

PERFECTO Combustion Chamber

A practical, economical solution to many oil conversion problems. Installation is simple. For both round and elongated chambers, four basic tile shapes are used to form chamber sizes to fit nearly every type of domestic furnace or boiler.

OIL BURNER Baffle Brick

The baffle is installed in such a manner that it rests on the combustion chamber and directs furnace gases to all heating surfaces. Results in more economical and efficient performance by reducing the waste heat up the stack.

HIGH TEMPERATURE Insulations

These A. P. GREEN High Temperature insulations help insure the efficiency of the oil burner installation.

Order from Your A. P. GREEN Distributor; he's listed in the yellow pages of your telephone directory, or write direct

A. P. GREEN FIRE BRICK CO.
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PLANTS: Mexico, Mo. • Woodbridge, N. J. • Sulphur Springs, Texas
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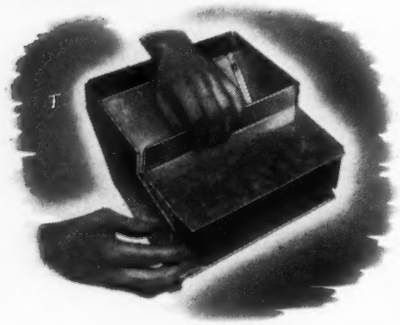
A P Green REFRACTORY PRODUCTS

DISTRIBUTORS IN THE PRINCIPAL CITIES OF THE WORLD

AT LAST!
PRACTICAL
PRE-FAB
FITTINGS

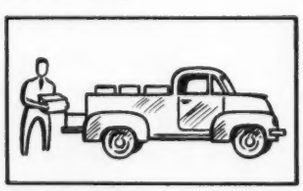


Duc-Pac fittings and duct PRESS together . . . in SECONDS. And Duc-Pac's *exclusive* internal lock eliminates any "hammering-over" of edges. Result: a neater job—finished faster.

Duc-Pac fittings and duct, packed in strong cartons, save space in storage and on your truck . . . can't collect dust or become dented. Inside the carton, all parts of each fitting are banded together and each fitting is labelled for quick identification.

Write TODAY for complete information on DUC-PAC—the line of *practical* pre-formed fittings.

No need to go through this time-consuming routine when you use Duc-Pac . . . the *practical* pre-formed fittings.



Duc-Pac fittings are quickly, easily loaded and unloaded . . . can't become battered on the way to the job.

Canadian Distributor:
G. MITCHELL & CO. LTD.
5320 ST. LAWRENCE BLVD. • MONTREAL 14, QUE.

DUC-PAC
DIVISION OF SWETT BROS., INC.
78 ISLAND POND RD. • SPRINGFIELD • MASS.

price is approximately 22% of the price paid by all consumers. Boatwright says both these statements are mathematically correct. The first refers only to the residential part of the natural gas market which is not interruptible and has first claim. The second statement refers to the average price for both interruptible and non-interruptible sales.

Table VI shows the absence of price patterns in given areas paid under contracts and indicates a competitive price picture. A monopolistic set-up controlled by a few would not have the divergence of prices.

Sales were classified by field according to prices paid on contracts signed in 1952 and 1953. Price levels among the different geographical locations of supply show distinct differences. The Appalachian field prices vary from 21 to 29 Mcf; Panhandle-Hugoton from 7 to 18; East Texas-North Louisiana from 4 to 13; Louisiana-Texas Gulf Areas from 3 to 16.

This absence of price uniformity within producing areas and the variation among areas is an indication that competition is working effectively in the natural gas producing field.

Boatwright summed up his report saying that he felt a competitive situation at the wellhead favored consumers. He pointed out a program a setting prices is costly to finance. It would require a much larger agency than now exists. Resultant increases in governmental costs eventually would be passed on to consumers.

❖

National-U. S. Radiator complete merger Operation

ON APRIL 1, The National Radiator Co., Johnstown, Pa., and the United States Radiator Corp., Detroit, Mich., merged to form the National-U. S. Radiator Corp., Johnstown, Pa.

W. C. McCord, president and a director of U. S. Radiator, has been named chairman of the board of the new corporation, while Theodore B. Focke, president of National since 1952, will continue as president of National-U. S. Radiator Corp. L. L. Hotsenpiller, formerly vice president for National's manufacturing, is now executive assistant to the president.

Carroll M. Baumgardner, vice president for National's sales retains that post in the new company, while Howard B. Steggall, formerly senior vice president and a director of U. S. Radiator has taken over the position of vice president for manufacturing and director.

Also named as a vice president is John C. Haas, who previously was vice president, secretary of U. S. Radiator.

On the executive committee for the new firm is William T. Golden, chairman; John L. Loeb, Harold F. Lindner, R. Howard Webster, McCord, Focke, and Baumgardner.

The merged corporation represents combined net sales of over $50 million and combined assets of approximately $28,500,000. National-U. S. will market cast-iron heating products, steel boilers for both commercial and industrial needs, packaged steam generators and similar items.

The company's Drayer-Hanson subsidiary, which produces summer cooling units, will allow the corporation to expand along that line.

❖

IBR reveals new Record for wet heat Installations

INSTALLATION of hot water and steam heating systems in new homes reached a new high in 1954, the Institute of Boiler and Radiator Manufacturers, New York, N. Y., announced in a recent bulletin.

Complete tabulations show home heating systems utilizing boilers of all types were installed in 30% to 35% of new homes built in 1954, a gain of around 5% over 1953.

The figures are based on industry boiler shipments—which show cast-iron boiler tonnage alone up 8.40% over 1953—and estimates of installations in new housing as compared to older homes.

Credit for the rise, it was felt, could be attributed to the increasing popularity among home buyers and builders of the perimeter baseboard type of hot water heating, coupled with the introduction of new liquid-cooling equipment which combines with it to provide year-round heating and cooling systems.

The SIGNS You're Seeing EVERYWHERE...

AND... There's GOOD REASON!

When it comes to **value**, your builder customers have MONCRIEF pegged **right!**

The selection is greater, because the complete Moncrief line offers a type and size of unit for 'most any installation.

The price is lower, because ingenious design and mass production lower Moncrief's manufacturing costs.

The products are excellent, because Moncrief's 60 years of experience in the manufacture of heating equipment is applied to each and every Moncrief unit.

So whether it's Gas or Oil Firing . . . Basement, Utility, Horizontal, Counterflow or Gravity Heating Units . . . Basement, Utility or Counterflow Year 'Round Air Conditioners . . . Air-Condensing or Water-Condensing Cooling — your **assurance** of greater profit, in **both** new construction and replacement business, is with MONCRIEF.

Get the facts — from your Moncrief Jobber. He has the bigger, more profitable Moncrief line for **your business!**

Year Round Air Conditioner with Cover concealing Burner and Controls.
Summer Air Conditioner connected to Forced Air Unit.
Winter A. C. Unit
Cooling Unit with Blower Installed.
Counterflow Units.
Horizontal Furnaces Gas or Oil.
Incinerator with or without Gas Burner
Gas Conversion Burner.
Gas Unit Heater.
Utility Unit
Gravity Furnace

APPROVED FOR GAS! APPROVED FOR OIL!

THE HENRY FURNACE COMPANY • Medina, Ohio

HEATING AND AIR CONDITIONING UNITS — MONCRIEF SINCE 1895 — FURNACE PIPE AND FITTINGS

MAKE NEW FRIENDS FOR YOUR BURNERS

with ACME ELECTRIC TRANSFORMERS

In many fields the name Acme Electric means dependable transformer performance beyond the standards expected. In television, luminous tube signs, cold cathode lighting, electronic computation, military and electronic applications, Acme Electric transformers are first choice of leading manufacturers. Acme Electric oil burner ignition transformers can be supplied with a mounting base and other mechanical specifications to meet your exact needs. They will add a measure of dependability and make new friends for your oil burner.

We invite any oil burner manufacturer to competitively test Acme Electric oil burner ignition transformers against any other make. Samples will be furnished for this purpose on request.

ACME ELECTRIC CORPORATION
505 WATER STREET • CUBA, NEW YORK

Acme ACME Electric
TRANSFORMERS

Comm.-ind. Shipments show Decline for February

FOLLOWING THE usual pattern, February shipments of commercial-industrial oilburners declined to 2,001 units as compared to 2,399 recorded during January, the Oil Heat Institute of America recently reported.

This was a dip of 16% under the previous month, but showed favorably against the 1,951 shipments made in 1954. According to David H. Bottrill, OHI technical secretary, the upswing over the last year indicates confirmation of the anticipated trend for 1955, i.e. the same or slightly better than 1954.

A breakdown of the report shows that total horizontal rotary cup oilburners shipped ran at 644 in addition to 89 oil-gas burners of this type; gun-type oilburners accounted for 1,159 units along with 47 oil-gas combination units; 23 mechanical, air and steam atomizing oilburners and 17 oil-gas burners.

Totals for the month show 1,848 oilburners and 153 oil-gas combination burners.

Tabulation for February shipments divided by type and size shows:

	Oil-burners	*Oil-Gas Burners*
Horizontal Rotaries		
2½ and under ...	68	27
Over 2½ to 8	55	17
Over 8 to 30	239	9
Over 30 to 100 ...	231	32
Over 100	51	4
Total	644	89
Gun Burners		
Over 5 to 30	1,159	45
Over 30	22	2
Total	1,181	47
Mechanical Atomizing		
30 and over	23	17
Grand Total	1,848	153

❖

Lewis H. Dietz has been named Far-western sales director for the Thermobloc Division of Prat-Daniel Corp., Norwalk, Conn. He is supervising sales in the eleven far western states with Montana, Wyoming, Colorado and New Mexico acting as the eastern boundary. Dietz is president of the Pacific Engineering Equipment Co., Hollywood, Calif. His new activities will supplement his operation of Pacific, which he established in 1940.

Sales Appointments

Harry G. Johnson, Chicago, Ill., *Manufacturers Sales Co.,* Paterson, N. J.; *E. H. Rubbert,* New York, N. Y.; *Simon P. Sheerin,* Carmel, Ind.; *Chas. F. Stumpf,* Chicago, Ill., have been named manufacturers representatives for H. Harsch & Co., Maplewood, N. J., as part of the company's recent expansion program.

Weather, Inc., Tulsa, Oklahoma and *Heat, Inc.,* Fitchburg, Mass., have been appointed distributor and wholesaler respectively for home heating and cooling products manufactured by the General Electric Co., Bloomfield, N. J. Weather, Inc., will distribute residential furnaces, boilers and central home cooling units in the Tulsa, Okla., area. Heat, Inc., will handle G-E's line of oil and gas boilers and furnaces, central home cooling units in the Massachusetts, Vermont, New Hampshire and Maine areas. Also, *Wylie Plumbing & Heating Co.,* Baltimore, Md., has been named distributor for G-E packaged airconditioners.

Mid-Way Supply Co., Northwestern Depot, Zion, Ill., under the managership of Grant Sisson, has been appointed wholesaler for the Century Engineering Corp., Cedar Rapids, Iowa.

Lee Danielson named sales representative by the Automatic Heating and Cooling Division of The Heil Co., Milwaukee, Wisc., for Wisconsin, upper Michigan, Minnesota, the greater part of North and South Dakota and the province of Manitoba in Canada.

The Noland Co., Inc.'s Spartanburg, S. C. branch has been named distributor for the airconditioning products of the Union Asbestos & Rubber Co., Chicago, Ill., to serve dealers and jobbers in 14 South Carolina counties.

Delaval Equipment Corp. has been appointed manufacturer's representative for the sale of boilers and equipment in the state of Delaware, eastern Maryland, southern New Jersey and eastern Pennsylvania by Cleaver-Brooks Co., Milwaukee, Wis.

Examination Answers

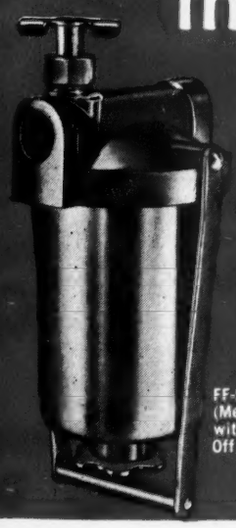
Answers to questions of commercial and industrial oilburner examination which starts on p. 102: 1-A, 2-C, 3-D, 4-C, 5-D, 6-B, 7-A, 8-C, 9-D, 10-A, 11-A, 12-A, 13-C, 14-D, 15-D, 16-A, 17-C, 18-D, 19-B, 20-D, 21-B, 22-A, 23-B, 24-C, 25-B.

Lamb Engineering Co., Baltimore, Md.; *Stringer & Spencer Sales Engineers,* Camden, N. J.; *Thomas M. Walsh,* San Francisco, Calif., and *J. W. Cherry Co.,* Shreveport, La., have been appointed as sales representatives for the Baltimore; Philadelphia; northern California and Shreveport territories respectively, by Kritzer Radiant Coils, Inc., Chicago.

Bushnell Controls & Equipment Co., Inc., Oakland, California, has been named northern California sales representatives for Dutton boilers manufactured by the Hapman-Dutton Co., Kalamazoo, Mich.

the right filter for every use

Klemm FUEL OIL FILTERS



FF-530V (Metal Bowl with Shut-Off Valve)

FF-430G (Glass Bowl)

CHEMISTONE ELEMENT . . . True Filter, not a strainer; exclusive with Klemm.

- MODELS AVAILABLE FOR EVERY HEATING APPLICATION
- CHOICE OF GLASS OR METAL BOWLS
- BUILT-IN SHUT-OFF VALVES AVAILABLE
- EXCLUSIVE CHEMISTONE FILTER ELEMENTS

No matter what kind of an oil burning installation you're selling or servicing, there's a time-proved, customer-satisfying Klemm Fuel Oil Filter to keep it running . . . and running right. That's why it pays to insist on genuine Klemm Filters — "Millions Since 1932."

UL APPROVED MODELS AVAILABLE

Klemm PRODUCTS

DIVISION OF KLEMM AUTOMOTIVE PRODUCTS COMPANY

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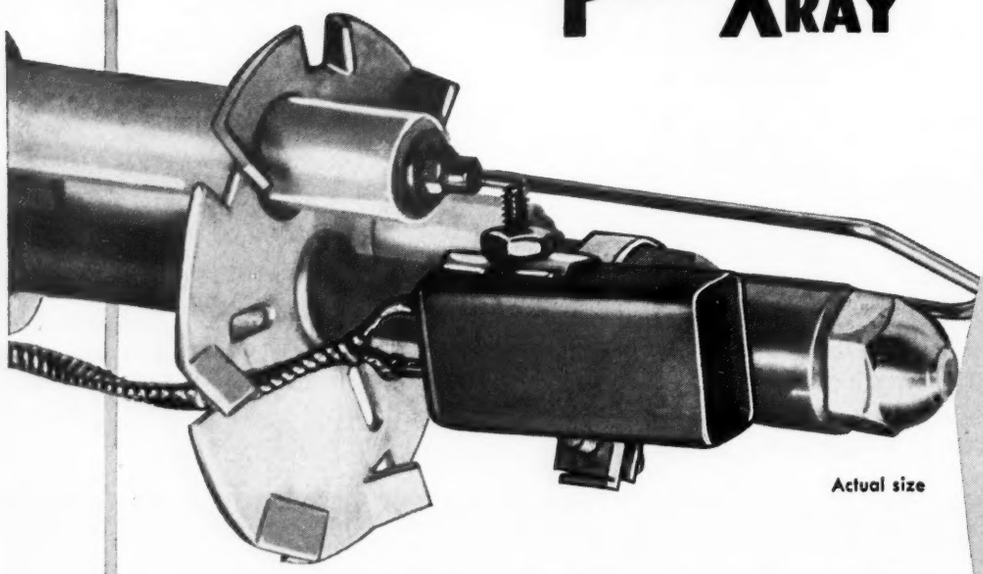
Eliminate cost and labor of stack installation!

INSIST ON PERFXRAY



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NEW BURNER-MOUNTED PRIMARY

Burner-mounted, adaptable to high and low pressure burners, PerfXray is unaffected by soot; uses no electronic tubes; requires no levelling; does not interfere with air flow. Burner mounting eliminates stack temperature problems.

FACTORY INSTALLED

. . . PerfXray is a complete integral unit installed and pre-wired at factory, eliminating cost and labor of stack installation.

Write for Complete Literature ●

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PERFEX CONTROLS DIVISION • General Controls Co., Iron Mountain, Mich. & Guelph, Ont., Canada

Factory Branches in all Principal Cities • Mfrs of Automatic Controls for Heating, Air Conditioning & Appliances

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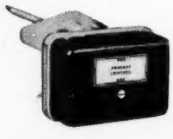
Series 474 Combination Fan & Limit Control

Series 175 Magic Dial Thermostat



Series 5230 Constant Ignition Line Voltage Primary Control

PX-B

Service grows in Importance

Complete satisfaction without Loss is the Goal

by
Robert Gray

FOR THE FIRST TIME, our annual service analysis in 1955 is presented in the Spring of the year rather than being a part of the January issue. There are two reasons for this. First, the editorial work load for the January issue was getting too heavy to do a proper job with the splendid material given to us by the industry. Again, it is obvious that dealers have more time to study service management presentations in a May issue, after the peak of the oilheating season is past. Many of the dealers are this month thinking of changes in their service programs for the coming season.

There was never a time in the experience of the oilheating industry when it was more important that oilburner service be as near perfect as we need it today . . . and there was never a time when it was so necessary to operate the department without lost motion in order to hold our charges to minimum levels.

Our industry's competition from competitive fuels has been growing in force and one of the primary selling points used by other automatic fuels is that with an oilburner you have high service expense.

Naturally oilheating has advantages that justify some of these extra costs but at the same time we want to do everything we can to make the competitive claims appear to be gross exaggerations.

The dealers taking part in the service management study this year were well spread through every section of the country except the Southwestern states where very little oilheating is done.

In TABLE 1 we get an idea of the relative size of the participating dealers based on the number of customers handled by their service departments. Notice that for all sections the average dealer serviced 1,656 residential burners with No. 2 oil.

In the other parts of this table you will see that 39% of all of the reporting dealers also render service on residual oilburners and that these particular dealers are each responsible for 48 of these heavy oil installations.

In the sectional breakdown we find that the Midwestern service departments handling residual burners averaged 78 customers of this type. This would indicate that the industry has fewer of the straight residual service operations in that area.

In TABLE 2 we establish one quite significant point, that fueloil distributors in the nation account for nearly two-thirds of all oilburner service. In the second column you will see that heating dealers, by which we mean either plumbing and heating contractors or sheet metal specialists, do a little less than one-fourth of oilburner service. It was surprising to discover that independent service companies, not directly in either the fueloil or oilheating business, accounted for 15% of all oilburner service.

The sectional variations in this table are about what we expected, with oil companies doing three-fourths of service in the Atlantic Seaboard

TABLE 1

How Many do They service?

PER DEALER

	No. 2 Oil	Residual	Number Servicing Residual
New Eng.	2,068	41	33%
Mid-Atl.	1,655	58	41
South Atl.	722	53	31
Midwest	1,514	78	40
Pac. N. W.	1,935	43	46
All Sec.	1,656	48	39

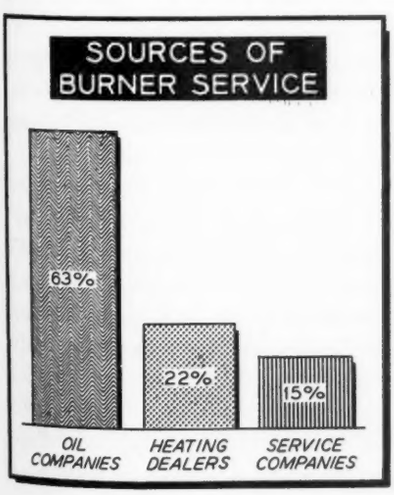


TABLE 2

Oil Companies Dominate Service

	CUSTOMERS SERVICED BY — Fueloil Distributors	Heating Dealers	Independent Service Co's
NEW ENGLAND			
Large Cities	72%	5%	23%
Medium Cities	76	13	11
Small Cities	72	10	18
All Cities	73	8	19
MID-ATLANTIC			
Large Cities	83	6	11
Medium Cities	65	26	9
Small Cities	64	27	9
All Cities	76	14	10
SOUTH ATLANTIC			
All Cities	55	33	12
MIDWEST			
Large Cities	54	29	17
Medium Cities	12	54	34
Small Cities	18	80	2
All Cities	38	41	21
PACIFIC NORTHWEST			
Large Cities	70	9	21
Medium Cities	51	27	22
Small Cities	73	7	20
All Cities	65	14	21
ALL SECTIONS			
Large Cities	70	15	15
Medium Cities	51	32	17
Small Cities	53	37	10
All Cities	63	22	15

areas. Again, in the bottom portion of the table we see that oil company service is most prominent in large cities, while the heating dealers show the greatest strength in the medium and smaller markets.

There has been a lot of discussion over how many customers should be handled by a full-time serviceman and we explore this in TABLE 3. The difficulty here has always been that so many servicemen also spend part time on installation work. However, there is an increasing number of dealers who keep installation and servicemen entirely separated in their work.

We have been able, thus, to isolate the exclusive servicemen in those companies and apply them to the number of service customers. The national average is 584 customers per man.

We also isolated all of the men doing installation work only and we related these men to the total installations made by their companies. This gives us an average of 34 installations per man during the year. Obviously, they work in teams so two men would average 68 installations and this included complete oilheating plants as well as simple conversion jobs.

If we apply these isolated examples to the entire service and installation workload of 1954 and assume that every workman has been a specialist in one activity or another, we find that the industry required the full-time output of 12,842 servicemen and 21,617 men on installations.

Naturally, there was a lot of overlapping between the two but the combined total of approximately 35,000 men exclusively on oilheating would be about right.

TABLE 3

Service Workload

	Customers per Man Doing Service Only
New England	513
Mid-Atlantic	439
South Atlantic	275
Midwest	876
Pacific N. W.	706
All Sections	584

TABLE 4

Servicemen sell Burners

	Share Total Sales	WERE REWARDED *Percentage*	*Or Dollars*
New Eng.	10%	5%	$7
Mid Atl.	11	5	10
South Atl.	7	4	10
Midwest	15	6	8
Pac. N. W.	10	8	7
All Sec.	12	5	9

TABLE 5

Service and Installation Wage Rates

	—INSTALLATION MEN—		——SERVICEMEN——	
Cities	*High*	*Low*	*High*	*Low*
New England Large*	$1.88	$1.54	$1.84	$1.63
Medium	1.99	1.49	2.03	1.66
Small	1.62	1.28	1.66	1.44
Mid-Atlantic Large	2.32	1.88	2.31	1.95
Medium	1.94	1.53	1.92	1.57
Small	2.06	1.66	2.06	1.70
Midwest Large	2.37	1.79	2.27	1.93
Medium	2.54	1.84	2.54	2.05
Small	2.22	1.61	2.07	1.89
South Atlantic All Cities	1.89	1.51	1.89	1.53
Pacific N. W. All Cities	2.96	2.54	2.84	2.51
National Average All Cities	2.26	1.78	2.21	1.86

*Large Cities—Over 250,000 population.
Medium—25,000 to 250,000 population.
Small—Under 25,000.

TABLE 6

Favorable Annual Incomes, 1954

FOR INSTALLATION AND SERVICEMEN

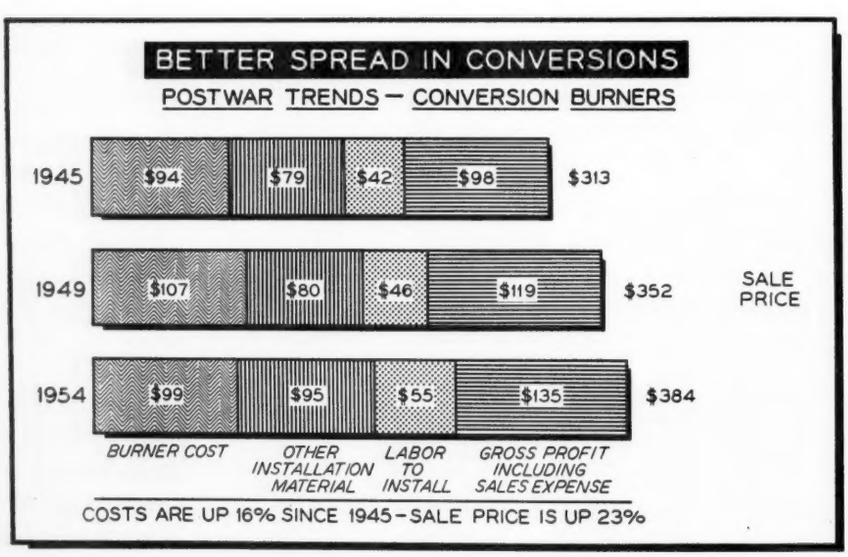
	Large Cities	*Medium Cities*	*Small Cities*	*All Cities*
New England	$5,022	$4,958	$4,866	$4,987
Mid-Atlantic	5,180	4,550	4,185	4,892
South Atlantic	..	..	..	4,826
Midwest	4,808	5,413	4,358	4,945
Pacific N. W.	..	..	..	5,506
All Sections	5,061	4,955	4,505	4,974

It has always been recognized that service departments are responsible for quite a few burner sales. This activity is reflected in TABLE 4 covering the year 1954. Service departments sold 12% of all installations or something over 88,000 jobs last year. Most companies rewarded the servicemen by a percentage of the selling price, averaging 5% on these new sales.

A smaller number of companies rewarded them at fixed dollar rates and the table shows that the average was $9.

There was a small increase in service and installation wage rates in 1954 over 1953. The rates are given in considerable detail in TABLE 5. Among installation men the national average for all cities for best men was $2.26 compared with $2.21 the year before.

The national average for best servicemen was $2.21 compared with $2.11 the year before. Where we show separate columns for high and low wage men this does not mean the highest and the lowest rates appearing in the study. Rather, each dealer gave us his highest and lowest rate so the figures in the table represent the average of the several hundred dealers participating.



There was quite a jump in the annual income shown in TABLE 6 at $4,974 in all sections and this compares with $4,684 in 1953. This increase was 6% while the average hourly increase was only 4%, showing that the men worked longer hours.

Notice the chart illustrating general economics of conversion burner sales in 1954. A similar chart has been shown each year for a long time back, and the findings are about what would be expected. The burner cost and sale price comes from the January issue while the two other breakdowns were developed in this study.

Perhaps the most important group of figures in this entire study is in TABLE 7. Just about half of the reporting companies had service department profits and the other half had losses. You will notice that the two main columns of figures are designed to separate the companies with profitable and unprofitable service.

One strange aspect of this study is that the group of companies showing a service profit had over 12% profit on their billing while the losing companies averaged nearly 15% loss. In other words whether they gain or lose they seem to do it with gusto.

As we go down the table we try to locate characteristics that would cause profit or loss. We see, for example, that the profitable companies averaged 1,644 customers while the losing companies had 1,278. So, the size of the operation apparently had some effect.

Far more important, however, is the next calculation where we see that the profitable service deparaments represented 21% of the total business of dealers operating them, against only 8% where the departments were unprofitable. The money-making group was making service substantially important.

The next calculation showed that the profitable companies had 29% of their customers on contracts and the unprofitable 28%, so there is no point here. Again we find that the average contract price of $21.76 was similar to the $21.13 price of the other group.

Moving down another notch the number of customers getting annual overhauls was relatively the same both ways. And again the average charge for these cleanup jobs showed little difference for the country as a whole.

The minimum call price was 6% higher among the profitable companies than among the unprofitable, and this may be a considerable factor although under the next listing we see the average hourly wage rate was 4% higher

TABLE 7

Service Profit or Loss?

CHARACTERISTICS OF COMPANIES THAT GAIN OR LOSE

		COMPANIES WITH *Service Profits*	COMPANIES WITH *Service Losses*
% OF COMPANIES			
	New England	40%	60%
	Mid-Atlantic	36	64
	Midwest	74	26
	Three Areas	49	51
PROFIT OR LOSS, % OF BILLING			
	New England	5.4%	11.0%
	Mid-Atlantic	11.1	16.3
	Midwest	18.9	14.6
	Three Areas	12.4	14.7
SERVICE CUSTOMERS, AVERAGE NUMBER			
	New England	2,387	1,477
	Mid-Atlantic	1,276	1,342
	Midwest	1,736	1,059
	Three Areas	1,644	1,278
% OF COMPANIES' TOTAL DOLLAR VOLUME REPRESENTED BY BURNER SERVICE			
	New England	19%	8%
	Mid-Atlantic	18	9
	Midwest	28	8
	Three Areas	21	8
% OF CUSTOMERS, SERVICE CONTRACTS			
	New England	27%	34%
	Mid-Atlantic	47	40
	Midwest	4	7
	Three Areas	29	28
AVERAGE CONTRACT PRICE			
	New England	$24.80	$19.64
	Mid-Atlantic	24.13	24.10
	Midwest	16.26	17.57
	Three Areas	21.76	21.13
ANNUAL CLEANUPS OTHER THAN SERVICE CONTRACTS, % CUSTOMERS			
	New England	28%	31%
	Mid-Atlantic	24	24
	Midwest	37	42
	Three Areas	29	31
AVERAGE CHARGE FOR CLEANUPS			
	New England	$10.62	$ 8.55
	Mid-Atlantic	12.96	12.70
	Midwest	11.34	14.00
	Three Areas	11.97	12.28
MINIMUM CALL PRICE			
	New England	$ 4.23	$ 3.89
	Mid-Atlantic	4.04	3.87
	Midwest	4.87	4.52
	Three Areas	4.34	4.08
WAGE RATE, TOP SERVICEMEN			
	New England	$ 1.94	$ 1.81
	Mid-Atlantic	2.20	2.12
	Midwest	2.25	2.18
	Three Areas	2.16	2.08
1954 OILHEATING INSTALLATIONS SHOWN AS % OF SERVICE CUSTOMERS			
	New England	8%	7%
	Mid-Atlantic	6	7
	Midwest	4	11
	Three Areas	6	8
% OF SERVICE CUSTOMERS THAT ARE ALSO OIL CUSTOMERS			
	New England	52%	89%
	Mid-Atlantic	91	97
	Midwest	23	74
	Three Areas	62	88

among the profitable companies than among the unprofitable.

When we look at the activities of these companies in selling new installations throughout their service departments, we see that the unprofitable departments sold one-third more jobs per thousand users than did the profitable companies. This indicates a somewhat stronger sales pressure in the dealer organization.

The final group of figures in this table may carry much of the answer to the whole question of profit and loss. Here we have the identification of the service departments stacked up against the number of customers that also get oil from their company. Among the profitable service companies we find that 62% of their service accounts get oil from them. Among the unprofitable companies we see that 88% of their service customers are also oil customers.

This leads to the conclusion that an oil company has less profit potential in service departments than does the non-oil dealership. The oil customer can always threaten the dealer that service charges are too high with the implication that the oil account may be lost. The sales department in an oil company is inclined to argue with the service department over what it considers excessive charges.

The oil man is apt to cancel service bills now and then in the interest of customer harmony. The plain truth is that a lot of service department losses in oil companies should be charged straight to sales expense because that is how they are incurred in many instances. So when you are around a convention and hear service departments called unprofitable, the chances are you are listening to oilmen.

What this industry needs is a happy medium. We want good service, adequately paid for, but so well managed that there is no lost time in the operation.

In TABLE 8 we notice that the minimum charge per call in 1954 averaged $4.15 which was a very substantial rise from $3.89 the previous year. This undoubtedly had something to do with improving the general profit picture. It is a little surprising, however, to notice in that same table that the amount of free service in 1954 was 11% of all service while in 1953 it had been only 6% of all service.

Notice in TABLE 9 that if we combine the two types of contracts, those including parts or not including them, we find that 25% of the customers were on contract last year compared to only 20% in 1953. This is a very helpful indication because a customer with a contract is easier to keep since he does not run into unexpected charges.

There was a $3 rise in the average contract price where parts are included and a $1 reduction in the average price where they are not.

The chart (six-year comparison of service activities) demonstrates quite thoroughly the trend over the wider range. In 1954 more than half of all oilheating users had either a contract or an annual overhaul. Six years earlier this figure was only 37%. Today, less than two-fifths of the customers are on the simple paid call service basis, while six years ago this was nearly three-fifths.

We see in TABLE 10 that one-fourth of oilheating dealers nationwide operate their own sheet metal shops while the remainder either depend primarily on prefabricated ducts or else they

TABLE 8

Minimum Charges are Up;

SO IS FREE SERVICE

	Minimum Charge Call	*Percent Free Service*
NEW ENGLAND		
Large Cities*	$4.58	9%
Medium Cities*	3.88	10
Small Cities*	3.30	19
MID-ATLANTIC		
Large Cities	4.16	10
Medium Cities	3.43	10
Small Cities	3.81	17
MIDWEST		
Large Cities	4.76	16
Medium Cities	4.26	6
Small Cities	3.39	29
SOUTH ATLANTIC		
All Cities	3.77	8
PACIFIC NORTHWEST		
All Cities	5.02	5
ALL SECTIONS 1954		
Large Cities	4.43	11
Medium Cities	3.78	8
Small Cities	3.57	19
All Cities	4.15	11
All Cities 1953	3.89	6

*Large cities over 250,000.
*Medium cities 25,000 to 250,000.
*Small cities under 25,000.

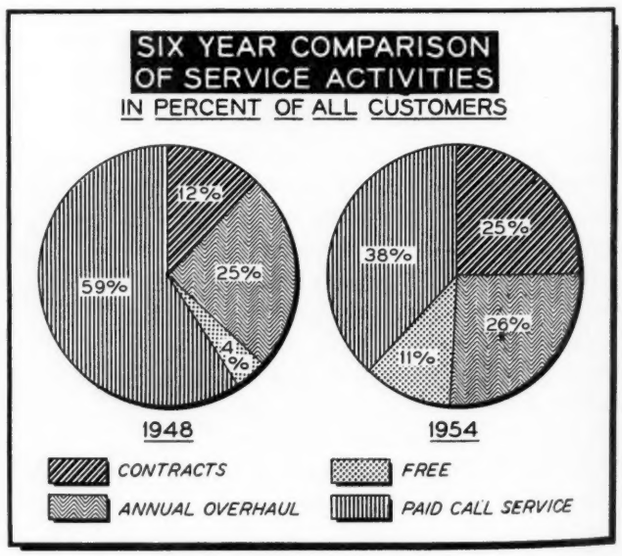


TABLE 9

More Service Contracts in 1954

	SERVICE CONTRACTS				ANNUAL OVERHAUL	
	Percent All Customers Including Parts	*Price With Parts*	*Percent All Customers Without Parts*	*Price Without Parts*	*Percent All Customers*	*Average Price*
New England	9%	$26	18%	$18	22%	$10
Mid-Atlantic	28	24	12	17	19	12
South	1	..	22	17	34	11
Midwest	1	..	8	16	35	12
Pacific N. W.	..	..	10	17	31	11
All Sections 1954	13	25	12	17	26	12
All Sections 1953	13	22	7	18	26	12

subcontract their sheet metal work. Naturally there is quite a geographic flavor to these figures with New England and Mid-Atlantic areas showing the smallest ratio of dealers with their own shops. This is because those sections are much heavier in boiler heating than in warm air.

It is to be expected that the practice of dealers operating their own sheet metal shops will expand somewhat along the East Coast as you will notice in the last column of this table. This column shows a measure of the number of oilheating dealers who are planning to equip a shop of their own within a year.

Somewhat along that same line of thought we see in TABLE 11 that 43% of all oilheating jobs installed in 1954 were in boiler plants and 57% were in warm air. This does not mean that each job carried a new boiler or furnace since these percentages also include conversion burner jobs put into existing heating plants.

You will notice that in the New England and Mid-Atlantic the ratio was about 60% boiler heating to 40% warm air.

We are making just a little headway in the job of getting our oilheating buyers to also use our fuel for water heating. The detail on this is shown in TABLE 13. Notice that 40% of our jobs have the domestic water supply heated by oil and this compares with 37% in the year 1953.

The 3% pickup all occurred in the first column where we have a boiler providing year-round hot water. This is probably related to the new home field where several builders have told us that they are using more forced circulation hot water plants than they had formerly done and one of the compelling reasons was this domestic water hookup.

Gas took on less of our heating customers for domestic water supply in 1954 . . . 30% compared with 33% in 1953. Electric water heating, on the other hand, went up from the one year to the next, rising from 23% to 27%.

Now looking back to TABLE 12 we have attempted to measure for the first time this year the ratio of company-owned service trucks to private cars used by servicemen. The ratio as you can see is nearly four to one, and the combined trucks and cars number about 25,000.

The chart on this page shows a two-year trend in causes of service calls. A number of dealers today use a much more elaborate breakdown as, for example, the Joe Leone chart in this issue, but we stick to these familiar designations because we can relate them directly to previous years.

In making a two-year comparison in the chart notice that the two strongest factors, controls and nozzles, have improved considerably during the period.

Future service trends will probably bring an increasing number of contracts or annual overhaul jobs, possibly with a little lower average charges. Then there is fresh interest being shown in the idea of including burner service in the oil price with one very large Eastern marketer planning to do this on a 1¢ per gallon basis.

Certainly, service is getting increasing attention from top management these days, which is all to the good.

TABLE 10

Oilheating Sheet Metal Shops

	Own Shop	*Use Prefab*	*Farm Out*	*Plan Own Shop*
New Eng.	14%	46%	40%	12%
Mid-Atl.	13	32	55	5
South Atl.	43	21	26	11
Midwest	41	29	30	1
Pac. N. W.	38	31	31	..
All Sec.	25	33	42	5

TABLE 11

Type of Heating Systems in 1954 Oilfired Installations

	Steam	*Hot Water*	*Forc. Air*	*Grav. Air*
New Eng.	29%	34%	24%	13%
Mid-Atl.	25	34	32	9
South Atl.	5	18	74	3
Midwest	8	16	54	22
Pac. N. W.	2	1	81	16
All Sec.	18	25	44	13

TABLE 12

How They get to the Job

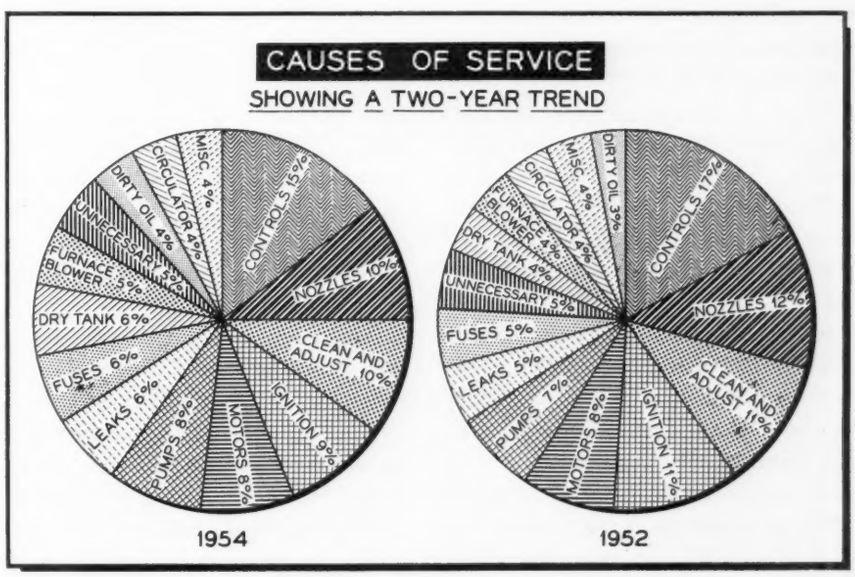
	NUMBER OF	
	Company owned Service Trucks	*Cars Owned by Servicemen*
New Eng.	2,485	1,320
Mid-Atl.	7,921	2,339
South	2,000	341
Midwest	5,471	1,224
Pac. N. W.	1,264	170
All Sec.	19,141	5,394

TABLE 13

Oil gains moderately in Water Heating*

	Summer-Winter Hookup on Boiler	—SEPARATE BURNER— *Vaporizing*	*Power*	—OTHER FUEL— *Gas*	*Elect.*	*Other Methods*
New England	51%	5%	2%	17%	15%	10%
Mid-Atlantic	61	1	1	24	10	3
South Atlantic	7	3	..	12	77	1
Midwest	6	4	1	61	27	1
Pacific N. W.	1	..	1	5	92	1
All Sections	36	3	1	30	27	2

*The percentages shown in the table disclose how domestic water was heated in homes getting new oilheating installations in 1954 . . . they do not refer to total oilheating jobs in use.



Hochstein is named President at Oil Heat Institute Meeting

THE 33D ANNUAL CONVENTION of the Oil-Heat Institute of America, Inc., held April 19 to 21 at the Conrad Hilton Hotel, Chicago, was highlighted by a proclamation by Mayor Martin H. Kennelly, proclaiming April 17 to 23 as Oil Heat Week in Chicago.

The first day of the convention was devoted to business meetings of the Institute, its Divisions and Committees, followed by a Wednesday program that explored the current construction market and the potential it offers for oilheating sales. On both April 20 and 21 there were a number of general sessions, including round-table discussions, that covered the gamut of manufacturer and dealer management problems, sales and installation, systems and methods in year-round airconditioning, fueloil delivery operations and service.

Included also in the three-day program were two luncheons, the first on April 20 sponsored by the Accessory Division and featuring the Rev. Lex King Souter, First Congregational Church, Fall River, Mass., who delivered an absorbing and inspirational talk on "World Facts and the American Dream."

A second luncheon, an all-industry affair, was held on April 21 with the Hon. Douglas McKay, Secretary of the Interior, speaking on "America's oil Resources. McKay paid tribute to the progress made by the oil industry generally, resulting from the application of private ingenuity and enterprise. He reviewed briefly the progress made by the Bureau of Mines in perfecting methods of producing shale oil and described the program being undertaken for the development of oil, gas and other minerals of the Outer Continental Shelf, better known as tidelands oil.

The Secretary reported that for drilling off the coasts of Louisiana and Texas the Department received $141 million worth of bids and estimated that leasing rights, rents and royalties will bring $6 billion into the Treasury.

He described other activities of the Interior Department and expressed agreement with the conclusions reached by the Presidential Advisory Committee on Energy Supplies and Resources Policy, adding,

"I would not like to see the Federal Government called on to step in and lay down rules for the control of oil imports, nor would I like to see our domestic oil industry hurt by excessive imports.

"I don't like the thought of any bureaucracy in Washington telling the man who has built or bought his own home how and with what fuel he should heat it and that applies with the same force to a man who has built a factory, a store, an apartment house or anything else that requires fuel. The basic factor of our American way of living is that we all have equal opportunities for access to the enjoyment of our resources. Certain rules are necessary to restrain those few who might be inclined to act unfairly, but our guiding principle must be opportunity and freedom of choice."

And, then concluding, the Secretary said, "Looking ahead a bit, I am confident that the period that lies before us will be one of continued progress for the oil industry and oilheating, highlighted by many advances which we as yet can only dimly surmise."

The new board of directors, meeting on April 19, elected George E. Hochstein, Heil Co., president for the coming year, with three vice-presidents: C. T. Burg, Iron Fireman Mfg. Co., P. G. Crewe, Webster Electric Co. and Claude A. Potts, U. S. Potts, U. S. Machine Div.

Hochstein

In addition to these officers, the following were named to the Institute's Executive Committee: From the Manuafcturer Division: Paul K. Addams, Fitzgibbons Boiler Co.; T. A. Crawford, Timken Silent Automatic Div.; M. J. Donahue, Fluid-Heat Div.; G. M. Marin, Sun-Ray Burner Mfg. Co. and J. Verne Resek, Cleaver-Brooks.

From the Accessory Division: Stanley Czarnecki, Eddington Metal Specialty Co. and C. W. Lang, Sundstrand Machine Tool Co.

From the Distribution Division: Herb Spade, Westchester Oil Trade Association and Fred Heaney, New York Oil Heating Association.

Stanley Czarnecki was elected chairman of the Accessory Division; Herb Spade assumed the same post in the Distribution Division. A complete list of the board of directors named during the convention appears on page 68.

At the annual meeting of the board of directors, Paul K. Addams, retiring president, was chairman. In his report on the state of the industry he brought in a little history to show how oilheating had advanced from its early days of concentration on conversion burners

Convention Report

The accompanying report covers the activities generally that took place during the business meetings of the Oil-Heat Institute of America, Inc., held in Chicago, April 19 to 21.

Much additional useful information was obtained by those who attended the three day affair at the general sessions held on the last two days. These dealt with such topics as oilburner service and installation, outlook in housing, dealer and manufacturer management. The press of time does not permit us to include digests of these meetings in this issue, so that additional coverage is planned in the June issue.

C. T. Burg, *Iron Fireman, and Claude A. Potts, U. S. Machine (left to right), elected vice-presidents of Oil-Heat Institute. Preston G. Crewe, Webster Electric is the third vice-president.*

Left: *Ralph Becker, managing director of the Institute and* **Right:** *Paul K. Addams, Fitzgibbons Boiler and retiring president. At the April 21 luncheon, during the Institute convention in Chicago, Addams was the recipient of a gold desk clock, as a memento of the accomplishments of his presidency.*

into a stronger emphasis on units. He had along a May 1931 issue of *Fueloil Journal,* with an article by Raymond Newcomb, then sales manager of Fitzgibbons Boiler Co., discussing the desirability of combining a boiler and burner in a single unit of greater efficiency.

This was the earliest known mention of the subject and Newcomb added the prediction that within 20 years complete units would outsell conversions and time has proven that he was right.

Addams pointed out that Institute membership now includes 97 manufacturers and 2,273 fueloil and oilheating dealers who constitute the Distribution Division.

Manufacturers' Profits

A highlight of his presentation was a series of economic charts in which he showed that while all manufacturing in 1954 earned 8.5% before taxes on its gross billing, oilburner manufacturers as an industry earned only 6.7% on the same basis. Then he showed that leading boiler manufacturers earned only 5%, furnace manufacturers, 6.5% and water heater manufacturers, 7.0%. He pointed out that when you recognize these figures are cut in half by income taxes, it is obvious that manufacturing profits are too low and that prices should be higher on heating equipment.

William Smith, Jr., Toridheet Division and chairman of the Market Research Committee, told of the annual survey among manufacturers, some parts of which are reproduced elsewhere in this issue, describing their outlook for the current year's busi-

Igniters' Award

THE SECOND GROUP of Igniters' Awards was made at the all industry luncheon, April 21, during the 33d annual Convention of the Oil-Heat Institute of America at the Conrad Hilton Hotel, Chicago. The award, which originated last year in the Distribution Division, was set up to recognize and commend outstanding members of oilheating dealerships for achievement and unselfish service to the industry.

Retiring President Paul K. Addams presented Igniters' Awards to: William E. Allman, Dalton Coal & Supply Co., Gary, Ind.; Edward P. Hacker, Ballard Oil & Eqpt. Co., Portland, Me.; C. R. Holloway, Liberty Fuel & Ice Co., Portland, Ore.; H. M. Spade, E. Robison, Inc., Hartsdale, N. Y. Following are excerpts from the formal citations read when the awards were made:

WILLIAM E. ALLMAN

The oilheat industry, if it is to maintain its forward march, must continually avail itself of the leadership qualities of younger men: must have, within its ranks, a corps of developing talent upon which it can depend tomorrow, and in the years ahead. In Gary, Indiana, is one such rising younger light in oilheat—Bill Allman, of Dalton Coal and Supply Company.

Bill had worked for the Gary National Bank, General Motors Acceptance Corp., and the Gary Credit Bureau before joining Dalton, in 1941. He also was a charter member of the Gary Junior Chamber of Commerce, its President, in 1949, and in 1950, received its Distinguished Service Award as Gary's Outstanding Young Man of 1950. His list of affiliations and activities, both civic and industry-wise, forms an impressive total, indeed.

EDWARD P. HACKER

Here is a gentleman who has been a "Maine-stay" of our oil heat industry in the Pine Tree State, and whose progressive, helpful inuflence has benefited oilheating in New England for nearly two score years. . . . Ed Hacker, President and Treasurer of Ballard Oil & Equipment Company, Portland, Maine.

To industry affairs, too, Ed Hacker has given unstintingly of his time and talents. Past-president and a member of the Advisory Board of Oil-Heat Institute of New England, ex-Director of OHI of America, Director of the New England Oil Industry Information Committee, member of the Fueloil Committee, Division of Marketing of American Petroleum Institute, Director of the Maine Petroleum Industries Committee! And just a year ago, Ed Hacker founded, and now serves as President, the Maine Fuel Oil & Equipment Dealers' Association. An outstanding citizen of an outstanding state!

Allman **Hacker**

Holloway **Spade**

C. R. ("CHUCK") HOLLOWAY

Few individuals in the oilheating industry have spent as many hours on industry activities as has "Chuck" Holloway. Certainly his own business has grown large in the process, but there has rarely been a day too crowded to prevent his going to committee meetings or any other kind of venture that was designed to improve operating conditions for all of his friends in the business.

Holloway's work for others has not been limited to the oilheating industry. He has helped on a number of endeavors of public spirited nature.

Chuck was voted Portland's "First Citizen" for the year 1949 and got a lot of well-deserved recognition.

As the present head of the Oil Heat Institute of Oregon, he and his associates have increased the membership by 40% and launched an impressive advertising program in seven major marketing areas.

He has also introduced the first oilburner school to Oregon starting next month at Multnomah College.

H. M. ("HERB") SPADE

Every oil heat area that has shown any indication of progressive, constructive action, naturally counts, among its local industry assets, upon the abilities and unselfish spirit of a few industry "leaders." Such men, who labor unceasingly, with nearly incredible devotion, are known for their works and service throughout this oilheat business of ours.

Herb Spade is one of these few "top" industry men. Westchester County's oil heat dealers, and the oil heat industry nationally, are lucky to have a man like Herb Spade helping to fight their battles.

Herb, as general manager at E. Robison, Inc., a leading marketer in Westchester County, N. Y., has been responsible for the steady and orderly growth of this company and its reputable, dependable, aggressive policies . . . a credit to the community.

Herb is a former president and director of the Westchester Oil Trade Association, Inc. Under his leadership, and because of far-sighted planning, the oilheating dealers in Westchester County are successfully meeting gas competition.

Herb is a director, and the newly-elected National Chairman of the Distribution Division, also a Director of the Empire State Petroleum Association.

ness. Smith put a lot of emphasis on the necessity for more selling, pointing out that gas heat outsold us by 28% last year. Observing that too many dealers neglect the market for conversions from other fuels, Smith pointed out that there still are 10 million homes in the nation that do not have any form of automatic heating.

Reporting for the Technical Division, Chairman William Sullivan, Shell Oil, outlined some of the group's activities, the most important of which are: 1. Standardization of combustion test procedures; 2. Annual survey of fueloil characteristics in grades from 1 to 6, being done in conjunction with the API and Bureau of Mines; 3. Tank corrosion studies in cooperation with Underwriters; 4. Flame pulsation studies at Battelle Memorial Institute, in which OHI is cooperating with ASHAE and GAMA.

Ralph Becker, Institute secretary, reported for the Engineering Committee in the absence of the chairman, and revealed that Volume 4 of the new oilheating manual has been completed in its first draft. Little progress was reported on the first three proposed volumes. Becker mentioned that pulsation study at Batelle Institute and the directors subsequently voted to carry on with this for another year, including $6,000 annual support from OHI.

Half of this cost is borne by the Institute and half by the refiners represented in the Technical Division.

The next oilheating exposition, Becker continued, is to be held in New York next year in the new Coliseum, expected to be completed next Spring. The dates will fall some time between April 10 and May 8.

Finance Committee Chairman, E. N. McDonnell, McDonnell-Miller, reported a cash balance of $55,000. With income of $52,000 from dues this year, this will just comfortably cover the budget through the fiscal year. McDonnell mentioned that last year's exposition earned $75,000 and, since this occurs only every other year, it supplies a little more than a third of the Institute's budget requirements.

George Wolfe, Oil Heat Association of Central Pennsylvania, retiring Chairman of the Distribution Division, submitted applications from two new chapters, approved by the Distribution Board. Official acceptance then was voted for the Oil Heat Institute of Long Island, operating in the territories of Nassau and Suffolk Counties, and the Missouri Petroleum Jobbers Association, whose Oil Heat Division has about 25 members.

Also at the earlier meeting of the Distribution Board, National Chairman Fred Burroughs had advanced for consideration a suggestion which would set up three national operating divisions, one for the West Coast, another for the Mid-Continent and the

(Please turn to page 177)

Board of Directors

Oil-Heat Institute of America, Inc.

For the Period March 1, 1955 to February 29, 1956

MANUFACTURER DIVISION

Paul K. Addams, Fitzgibbons Boiler Co., Inc., New York, N. Y.
C. M. Baumgardner, The National Radiator Co., Johnstown, Pa.
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Dudley B. Robinson, The Torrington Mfg. Co., Torrington, Conn.
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F. N. Beckwith, Oil Heat Institute of New England, Boston, Mass.
Fred Heaney, New York Oil Heating Ass'n, New York, N. Y.
Al Hegeman, Wisconsin Oil Heating Ass'n, Milwaukee, Wisconsin
T. R. Loizeaux, Union Co. OHA, Plainfield, N. J.
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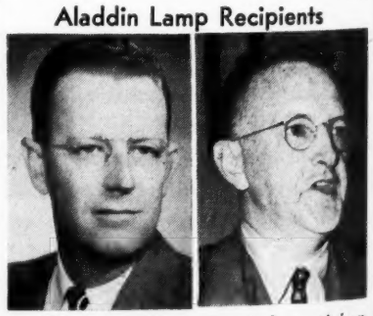
S. S. Pirie, Oil-Heat Institute of Greater Detroit, Detroit, Michigan
Wm. C. Raith, Oil-Heat Institute of St. Louis, St. Louis, Missouri
Herb Spade, Westchester Oil Trade Ass'n, White Plains, N. Y.
Robert Denny Watt, Oil-Heat Institute of Washington, Seattle, Washington
George H. Wolf, Jr., Oil-Heat Ass'n of Central Penna., York, Pa.

Aladdin Lamp Recipients



George H. Wolf, Jr., left, retiring Chairman of the Distribution Division and Fred N. Beckwith, right, Oil Heat Institute of New England, who received Aladdin Lamps during the industry luncheon, April 20.

Making Service profitable

Connecticut Clinic presents Ways that Dealers can render Service without losing Money

LAST FEBRUARY the Connecticut Petroleum Association, New Britain, Conn., sponsored an all-day Mid-Winter Educational Clinic, attended by more than 100 representatives of oilheating firms.

The two part program devoted a morning session to answering the question, "Can the service Department operate without losing Money?"; the afternoon session featured a panel of speakers who explored the same territory with regard to sales and installation departments of oilheating dealers.

In our March issue we reported the afternoon proceedings and explained that the report on the service department panel was being deferred until this issue.

The management clinic was the second sponsored by the Connecticut group, the first held last Fall for three days. Both took place at Yale University, New Haven, Conn.

William Briggs, Valley Oil Co., Portland, headed the association's Educational Committee, along with Samuel Pearl and Richard D. Banigan. As with the previous session, Franklin L. Kundahl, Crown Petroleum, Hartford, and president of the Association, and Laurence E. Edwardson, CPA executive secretary, worked closely with Briggs' committee in arranging for the program.

Harold Davies, The George W. Pickering Co., Salem, Mass., moderated the morning session on oilburner service, introduced the speakers and remarked that time is the service department's most important commodity. Which fact, he continued, makes it imperative for management to give serious thought to rendering the "same loving care to their service departments as they bestow upon their more consistently profitable departments."

Audience attention was maintained at a high pitch during all the talks, because each speaker was limited by a time clock to a 15 minute presentation. As a result, none of the papers was read, but instead each panel participant got right to the point of his talk, developed it quickly and then concluded. At the end of the session, there was a question and answer period during which more time could be devoted to points that perhaps were not explained completely during the formal talk.

At the end of the morning session, Robert Gray, editor, FUELOIL & OIL HEAT, summarized the themes developed during the talks. His principal point was that most frequently fueloil customers pick comfort, cleanliness and automatic delivery as their main reasons for perferring oilheating. Of the three reasons, Gray emphasized, two of them—comfort and cleanliness—are the direct responsibility of the service department so that it's not exaggerating by any means to say that satisfaction with or selection of oilheating is two-thirds dependent upon the way the service department takes care of the customer.

Selling service Security

FIRST SPEAKER, Charles H. Burkhardt, Paragon Maintenance Co., Brooklyn, N. Y., explored how to "Improve the Quality of Service to make it more palatable to pay for." He began by describing two attitudes that are common in analyzing burner service; one regards service as an adjunct of sales and the other, more realistic attitude, operates on the assumption that burner service must bring income, and that the "service department is not just a pawn of the sales department and really has little to do with the oil company's sales force as a direct adjunct."

If the first attitude is observed, Burkhardt contended, it is difficult to convince the public that it should pay equitable prices for service; that is, if service is handled as an adjunct to sales, and "only functions in carrying out a line or strategy set down by the sales department, and devotes all its energy, work and ability toward helping the sales department." Hence, the result is high service costs and little financial return.

The second attitude, on the other hand, recognizes that service should be rendered without subsidy. This may

result in a separate service company or a completely separate service department, with separate cost accounting to keep its operation financially distinct from the other departments.

With either arrangement, though, Burkhardt continued, anything that the service department does for other parts of the oilheating dealers structure, should be credited to the service department, either by an actual transferal of money or "paper recording" of the charges. This would include any services for installation, sales or fueloil delivery departments and should even include adjustments or rebates that some other department feels it is necessary to make on service department invoices to customers.

In other words, "A fueloil sales department in any company must learn to respect service operational costs, just as the customer must be educated to do so."

Burkhardt then described how his company implements some of the concepts intended to put the service department on a self-supporting basis.

First, except for the first year guarantee, there is no free service, which, next leads to the necessity for "the fueloil sales department to sell the idea of paid service" and when they do, it follows that soon the entire fueloil sales department is convinced "that satisfactory service can be achieved only if the customer pays for it."

Important in selling this point to the customer, Burkhardt stated, is the policy of selling a "so-called service contract for as long a period as possible, two, three or four years. In fact, however long you feel you can get the customer to buy." If necessary, in order to further this objective, it might be well to make the one year service policy more expensive and, more specifically, "Do not sell service contracts, as such. Avoid the legal term 'contract.' Instead, enroll customers in a security plan."

"Take out the word 'contract' and put in the word 'security.' Advertise, promote, sell oilheating security every chance you get. Use the radio, newspapers, organizational bulletins, even television. Tell the customers they enroll in hospital security plans, medical service security plans, provide security for their families with life insurance and accident insurance. Follow through then with the oilheating service security plan. Stress the word 'security'; emphasize the term 'enrollment.' We make the enrollment or renewal in the security plan automatic at the end of a one or two year period."

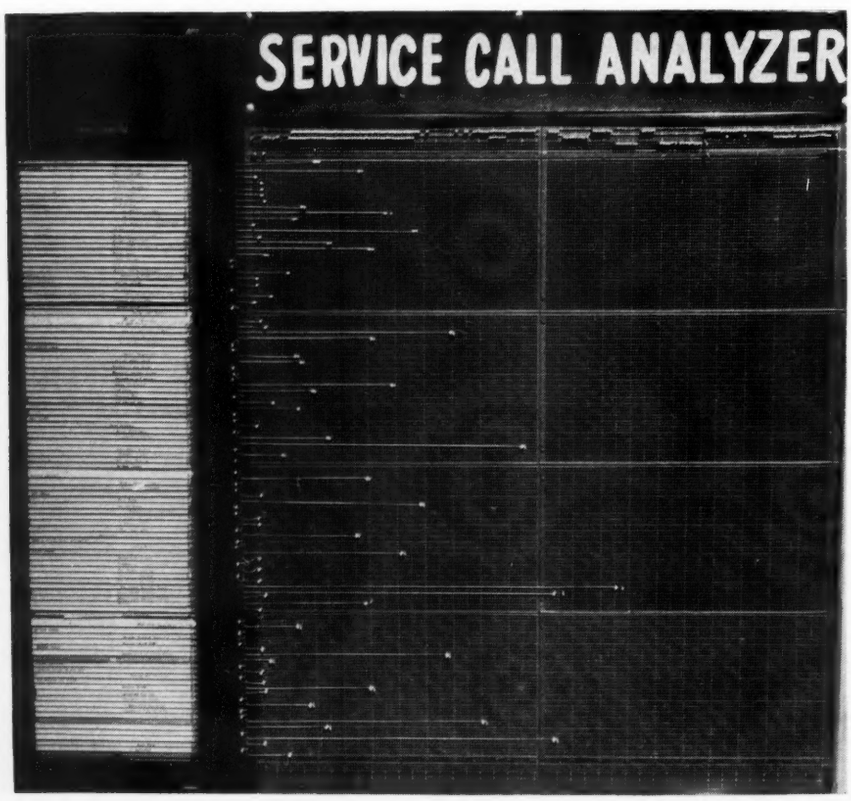
Next, if possible, use additional factors to educate the customer to the fact that you, as an oilheating dealer, are his contact for security and comfort. Sell him insulation, Burkhardt declared, storm windows, "anything that stresses the interest of the oilheating dealer in the homeowners' welfare."

Continuing, he pointed out, that one important facet of the contact between the oilheating dealer and the customer is "personalization." Get the customer to know the serviceman. One way to do this is to keep the same drivers and servicemen and salesmen in the same territory; or, if a serviceman moves from one zone to another, send a letter to the customers and introduce them to their new contact man.

The third point, after security and personalization, that helps to sell the value of good burner service to the homeowner, said Burkhardt, is "record." When a serviceman or driver goes into a home, have him "leave some token of his visit. Put a tag on the oilburner so that he can fill it in and if he puts a can of compound in the oil tank, place a label on the tank to show that it was treated."

Finally, the fourth point has to do with the individual serviceman and his training. "Everything you can do to dress him up, should be done. His appearance is important and you have a continuing investment, not only in his performance, but in his appearance and ability to generate good will. See that the car he uses is clean and of good appearance; give him an incentive plan to increase his interest."

"Let me repeat," Burkhardt concluded, "security, personalization and record for mass impact. Then, for personal impact, trained servicemen, good, prompt service, neat appearance and high morale. All, with constant application, will enable you to get the majority of your accounts over to paid service, get them enrolled in heating security plans and do more to stabilize your turnover than any other factor."



Service call *analyzer peg board developed by J. A. Leone & Sons, Inc. At the left are listed the causes of service, with the pegs alongside each complaint indicating the volume of calls currently handled for each one. From here the totals are transferred to a master sheet where periodic analyses are made.*

Preventing service Calls

JOSEPH LEONE, JR., J. A. Leone & Sons, Inc., Lawrence, Mass., discussed "Preventive Service," specifically, analyzing calls to determine causes of service and instituting steps to prevent their recurrence. In addition to covering the general subject, Leone tied it to the success his company has had with preventive service measures.

Starting with the original installation, he emphasized the importance of really engineering a job and supervising installation crews to see that they complete the job. If you don't, he warned, "instead of 30 to 45 minutes, the final inspector may be there two or three hours on the initial start. This is an additional expense in your service department."

His company solved this problem, Leone said, by scheduling the inspector's arrival at least 30 minutes before the installation crews finish the job. This not only enables him to check things while the men are there, but, "if there is anything he wants done or that the installation crew overlooked, he sees that it is done."

Leone also described some modifications his company has worked out when installing certain models of Timken wall flame burners, which it handles. These have to do principally with double ignition to eliminate cold start difficulties, so that, "We have cut down our service calls on Timken equipment tremendously, simply by putting in $3 or $4 worth of equipment that does not come thorugh with the burner."

Another program which has been conducted successfully involves "customer education," to the end that unnecessary service calls have all but been eliminated. For example, by a carefully conducted program, Leone explained, his company has been able to eliminate a customer attitude of "Why should I have to do what I'm paying you for?" This was accomplished by impressing upon the customer the importance of checking fuel supply, thermostat setting, oilburner switch and similar conditions before a service complaint was made. "Today," said Leone, "we have cut down these calls to practically nothing."

The most important part of his company's program, Leone contended, was service call analysis. He described a "Service call Analyzer" board (see accompanying photograph), on which the service manager records every service call, cataloging it by cause of service. Each week the service complaints are totaled and transferred to a master sheet, and from the sheet the service manager can analyze each category and investigate if any particular category registers a particularly high incidence.

The consolidation of one of these master sheets shows the causes of service during the period covered and also lists total complaints for each cause.

"To prove how this has paid off," declared Leone, "from January 1, 1953 through December, we made 9,630 service calls to 5,350 service accounts, representing a ratio of 1.8 calls per customer, per season.

"After we had inaugurated our program of analyzing service calls, from January 1954 through December, we made a total of 4,082 service calls to 6,020 customers, representing an aver-

Service call Analysis

NO HEAT CALLS		1,179
Off on low water	30	
Burned out fuses	14	
Carboned ignition	133	
Dirty helix	61	
Dirty thermostat	53	
Cold starts	14	
Low oil strike	46	
High oil strike	29	
Ignitor not set properly	59	
Broken porcelain	17	
Down-draft—high wind	24	
Burner switch off	23	
Thermostat not calling	32	
Motor dead	22	
Power failure	19	
Hole in track	20	
Burned out transformer	18	
Defective controls or part	105	
Off on safety	90	
Out of oil	48	
Adjust fan or changed	16	
Plugged distributor	59	
Loose connection	13	
Grills off track	18	
Bad hearth	24	
Dirt in oil line, air in oil line, etc.	9	
Radiation air bound	4	
Burner needs cleanout	179	
NOT ENOUGH HEAT		50
Water temperature low	4	
Boiler water hard	3	
Radiators air bound	10	
Radiator valves closed	3	
Radiation not ample	0	
Dirty strainers	0	
Low fire	4	
Plugged nozzle	3	
Air valves bad	23	
CHECK THERMOSTAT		86
MISCELLANEOUS (Eff. tests, check burners, etc.)		767
OIL LEAKS		93
Pipe leaking	2	
Loose fittings	8	
Plugged distributor	1	
Bearing or oil valve leaking	24	
Swirl washer	0	
Cracked or loose strainer cap	0	
Oil tank leaking	24	
Broken lines	34	
BURNER SMOKING		39
Burner needs cleanout	1	
Plugged distributor	38	
OIL SMELL		76
High fire	23	
Damper stuck	4	
Not enough draft	10	
High wind	0	
Burner needs cleanout	3	
Flue door open	0	
Misc.	36	
BURNER ON "SAFETY"		3
Relay out of adjustment	3	
WATER LEAKS		170
Solderless joints	6	
Unmade up threaded joints	0	
Pop safety leaking	6	
Radiators leaking	32	
Air valves leaking	2	
Tightened packing glands	0	
Quick vents leaking	1	
Should have called a plumber	4	
Washers	15	
Relief valve leaking	12	
Pipes leaking	10	
Expansion tank water logged	82	
NO HOT WATER		222
Chronic trouble	2	
Mixing valve open	6	
Misc.	214	
BURNER NOISY		82
Loose connection or part	19	
Misc.	63	
PIPES BANGING		9
BURNER GOES OFF AND ON		24
Timing off on relay, dirty thermostat, etc.	10	
Misc.	14	
NOT ENOUGH HOT WATER		36
Mixing valve	6	
Aquastat set too low	15	
Tankless heater air bound	4	
Defective controls	1	
Tankless heater full of rust	0	
Loose grill on track	1	
Misc.	9	
TOO MUCH HEAT		38
Dirty thermostat	3	
Valve open	3	
High fire	0	
Aquastat	21	
Misc.	11	
TOTAL		2,874

Typical master sheet *used by J. A. Leone & Sons, Inc., to record service complaints. This method, along with a peg board in the service manager's office, enables the company to keep accurate count of the causes of service and permits them to pinpoint quickly a high incidence of service calls from any one cause. The above tabulation was made during the months of February through June 1953 and here is shown as a total for the period. In practice, the tabulation on the master sheet is totaled each week.*

age of .68 calls per customer, per season. Note that each of these calculations excludes yearly cleaning visits."

Further, Leone explained, that several years ago the company had estimated its cost to make a service call was $4.37; today the cost has dropped to $3.21. "At the present time," he said, "our service department is at a break-even point. Several years ago we were losing a tremendous amount of money on service. In 1955 we expect a profit."

Repairing Parts in your Shop

OPERATION of a repair shop by an oilheating dealer to repair controls and parts was the topic considered by William G. Kane, Lewis Oil Co., Port Washington, N. Y.

He began with the assertion that any part which requires a complete rebuilding should be taken to a rebuilding concern. "However, there are a good number of parts that you can repair with 15 or 30 minutes labor, providing you have a good shop man. In some cases there may be no material needed, or maybe a dollar's worth of material. Actually, this compares against a rebuilt pump, for, let's say, $8.50, or a relay for No. 14, or so. It's something you can put on your service and parts agreement for which you try to give the customer a break to keep the oil business."

If you have a fairly large service organization, Kane continued, it's often possible to cannibalize three or four relays, pick out the good parts and reassemble two good controls. Convenience is another big advantage, mainly because your own shop most times is closer to the job than a rebuilder's shop, and at the same time you are doing a continuous educational job.

Also, Kane pointed out, on-the-spot repairs eliminate a great deal of bookkeeping and accounting expense, incident to placing an order with a rebuilder, processing it and then handling the invoice he sends you. Further, over a period of time, a dealer winds up with a considerable number of parts in fair shape that can be salvaged from old burners replaced with new units. Pretty nearly all of these, Kane remarked, "with a little bit of refurbishing, just a little cleaning and painting, can be used as replacement parts on your service and parts agreement."

Another thing, he continued, a shop man can minimize the replacement of parts that actually are not causing any trouble. For example, if you replace a relay, turn in the old one to the rebuilding firm and then find that the relay was not defective, you can't reclaim the old one and you have put on a new control that you probably can't bill to the customer.

If this transaction, Kane emphasized, had gone through your own parts repair shop, your shop man in all probability would have spotted the control as good and the serviceman would have rechecked to find the real trouble.

With this arrangement, also, oilheating dealers can use otherwise unqualified installation mechanics as servicemen during busy periods, confident that they can determine if a pump or motor is bad and knowing that the shop man will check them when they bring what they consider defective in for replacement.

The shop man proves extremely valuable on the trouble jobs, also, Kane explained, because he's used to working with testing equipment, he's methodical and "if he goes with your servicemen he is educating them as well as clearing up the situation at the same time. If you send him alone, he can straighten out the job. He is an ace in the hole. He's a good serviceman to start with, or he wouldn't be a good shop man."

"In setting up your shop you should figure on doing at least the following repairs," Kane told the dealers. "On motors: baking, replacement of brushes and starting switches, changing internal wiring. Better send out your rewind jobs.

"Pumps: just cut-offs. Transformers: repair the leads, along with a certain amount of baking and testing. Controls: testing, calibrating, small repairs.

"Also you should be able to do a small amount of machine work because you will have to do some drilling and tapping, and certainly some threading on parts you repair."

Summarizing, Kane said, "Your shop can increase the efficiency of your service department by supplying a large number of repaired or refurbished parts at practically no cost;

Repair shop *at Lewis Oil, Port Washington, N. Y., which handles just about half of all their repairs on oilburner parts.*

make available the testing equipment necessary to do a good, adequate oilburner service job; make it more convenient to pick up replacement parts. It will cut down on your callbacks and certainly should cut down on travel time.

"You also have a place to repair obsolete parts and an opportunity to educate the less experienced men."

Central service Organization

OPERATION and advantages of a central organization established to handle burner service calls for a number of dealers were covered in a talk by L. James de Wolfe, Reading, Mass. He confined his remarks to a description of the organization he heads, pointing out that central service benefits the small dealer by affording him a specialized organization to do his installation and service.

A central service organization, operating as it does as a separate company, ferrets out unapplied time and makes the participating dealers aware of each and every service charge imposed upon them. For example, de Wolfe said, if a salesman were to report to an individual dealer that a customer was going to cancel an oil contract unless a serviceman was sent over to make some adjustments, the chances are that it would become a "no charge" call.

On the other hand, if the dealer ordered the call through central service, within a very short time he'd be billed for it and would have impressed upon him clearly how much such calls cost and how quickly unapplied time can mount if such calls are not charged for.

Describing how an ordinary co-operative service plan is arranged, de Wolfe explained that a group of dealers usually set up an organization to handle service for all of them. They select a top grade serviceman to head it and give no thought to the importance of his being a good administrator, as well. The result, generally, is a poorly-run organization, which, because the dealers "no longer see their servicemen cluttering up the office or back room—they're at a separate address now—most time sees unapplied time going up, instead of down."

The only time the true situation is revealed is when the quarterly statement is rendered, and, again, this often is so late that no one feels inclined to take any action, because "we're well into the next quarter and it's probable that these things have straightened themselves out."

They never do, de Wolfe insisted, backing this up by revealing that when he took charge of the central service organization he heads, he found he was responsible for between five and six thousand active accounts—and before he checked "nobody would tell anybody else how many accounts he had" —and that unapplied time was running as high as 60%.

Further investigation, he said, confirmed his conviction that most co-operative plans are unworkable for these reasons:

No inventory check, no check-out or check-in of materials, inadequate supervision, no knowledge of unapplied time, men who needed training never receive it, productivity down and work, in general, poorly scheduled.

He was able to take steps almost at once to correct inefficient scheduling of clean-ups by inducing about 85% of the customers who were asked to do so, to re-schedule their clean-ups for March. Thus, he broke the jam of clean-ups that, until that time, always had piled up during the summer and fall months. "What happened," he declared, "was that the unapplied time dropped off to about 15%. The peak load that could be expected in the fall was minimized automatically because these calls were made at a time when men were non-productive, and, when we came around to the fall, instead of having to step up to 25 men, we found we could get along with 15."

Next de Wolfe explained he combined the functions of service and installation men so that they could shift from one to the other, dependent upon demand, and recommended that service contracts be changed to a calendar year basis, again with the idea of spacing clean-up work.

Finally, in an effort to eliminate nuisance calls, de Wolfe described one dealer's program to raise the annual price of a service contract, to $23 in the Reading area, and give the customer "a rebate at the end of the year if there are no calls except for the original clean-up. Both types of contracts are offered, but with the rebate provision, it is offered $2 cheaper than the parts contract for the year."

The success of the plan, de Wolfe said, has led others to consider it very seriously. "We're well along on some badly needed streamlining measures," de Wolfe concluded, "but, believe me, we realize it is one of those long drawn out affairs and there's a lot of work yet to be done."

Service by a major oil Company

GEORGE IRWIN, Atlantic Refining Co., Philadelphia, concluded the service department portion of the program with an explanation of how his company operates its service department and then related those procedures to methods that an oilheating dealer could apply to improve his operation.

He explained that Atlantic started rendering oilburner service nine years ago; then and now they sell no equipment, not even burner replacements. Irwin pointed out that "We started with a separate ledger to carry the activity, with a three months tabulation, designed to give us a running comparison of one year with another."

The sales department complex permeated the service department at first, Irwin continued, and because there was no desire to lose any business, the department operated on the theory that "the customer always was right." "However," he added, "about four years ago the company grew tired of seeing the red figure in the ledger and employed their industrial engineers to look over the service set-up."

Briefly, they found that too much territory was being covered, with the result that Atlantic cut down its area to an 8 mile radius from the 16 mile radius originally covered. Also, the study produced a standard for measuring mechanic performance time and

(*Please turn to page 175*)

More Heat, less Fuel

Newman Service, Buffalo, operates under this Slogan

"IN 1950 I realized the great expense incurred by oil companies and dealers in supplying free burner service in the Buffalo area. I organized a one man service plan to handle the calls for dealers too small to afford the overhead of their own service departments. In some cases I offered to make calls for a flat rate, 24 hours a day and seven days a week. I signed a few contracts to take all the responsibility of service for a small percentage of the fueloil gallonage pumped by the dealer.

"This spring we have completed contracts with four major dealers and a number of smaller concerns and are ready to furnish full time service, including annual check-ups for 2,500 customers and part-time service for an additional 3,000."

Thus Bernard W. Newman recounts the organization and expansion of The Newman Service Co., Kenmore, N. Y., a suburb of Buffalo, whose principal activity is oilburner service performed for oilheating dealers. He got his start as a serviceman after the war and organized his own business when he saw how much it was costing some dealers in his area to render relatively inefficient service.

As he explains it, many of the smaller dealers are converted coal dealers, whose only concern had been fuel delivery and who had practically no technical knowledge of oilburners or oilheating. Then, too, some of the companies in and around Buffalo who deliver fueloil, but do not sell equipment, were agreeable to having Newman assume responsibility for their burner service problems.

Since his start five years ago, Newman has added three other men, including his assistant, Dick Maunz. He's the company's expert on wall flame rotaries and takes over operation of the company in Newman's absence.

The servicemen use Nash Rambler station wagons, equipped with radios and heaters, so that, as Newman explains it, "They can travel in comfort, yet operate an economical vehicle and keep overhead to a minimum." Each man gets a weekly car allowance, plus a yearly replacement allowance. Actually, the cars are cooperatively-owned but maintained completely by the company.

In addition to the station wagons, Newman has converted a telephone company service truck as a complete moblie oilburner supply house. He calls it "the workhorse of the outfit" and uses it for special calls, major repairs and installations.

Three kinds of service arrangements are offered oilheating dealers by Newman. One, which imposes a charge of ¾¢ for each gallon of fueloil used by the homeowner, covers all service calls, any time of the day or night all through the year. Also, these customers automatically receive an annual check-up, which includes a thorough cleaning and adjustment. Other customers receive the vacuum cleaning and adjustment only when ordered and are charged $7.50.

The other two types of agreements call for Newman to furnish oilburner service to oilheating dealer's customers and then bill the dealer $3.50 for each call. In one case, however, Newman is paid a monthly retainer in addition to the per call charge, which obligates him to handle all calls from that dealer. On the other hand, the third arrangement is merely an agreement by Newman with a dealer to handle his service calls when it is convenient to do so. These are billed $3.50 for a day call; $4.00 for night calls.

To secure service, the customer calls the oil company and the supplier relays the call to Newman who dispatches the serviceman. And, when he arrives at the customer's house, he always identifies himself with the name of the fueloil dealer and not Newman Service.

All parts are billed as extras, but the bill for each call goes to the dealer, who then sends along the invoice to the customer under whatever arrangement

When Bernard Newman, *who operates The Newman Service Co. in Kenmore, N. Y., wanted to demonstrate to local oilheating dealers how the company's services work, he hit upon the idea of a movie. His assistant, Dick Maunz, is interested in amateur photography and had been taking pictures of personnel and equipment. The "home" movie that resulted was put together in spare time over a period of four months. While it represented a lot of work, actual cost was only about $60. Here's a photograph of one of the scenes being taken for the movie.*

Newman *is shown here dispatching a service call from the shop office, located in his Kenmore, N. Y. home, convenient to Buffalo and a dozen or so suburbs. Newman's wife handles much of the dispatching since he spends most of his time in the field.*

he has made to cover charges for parts.

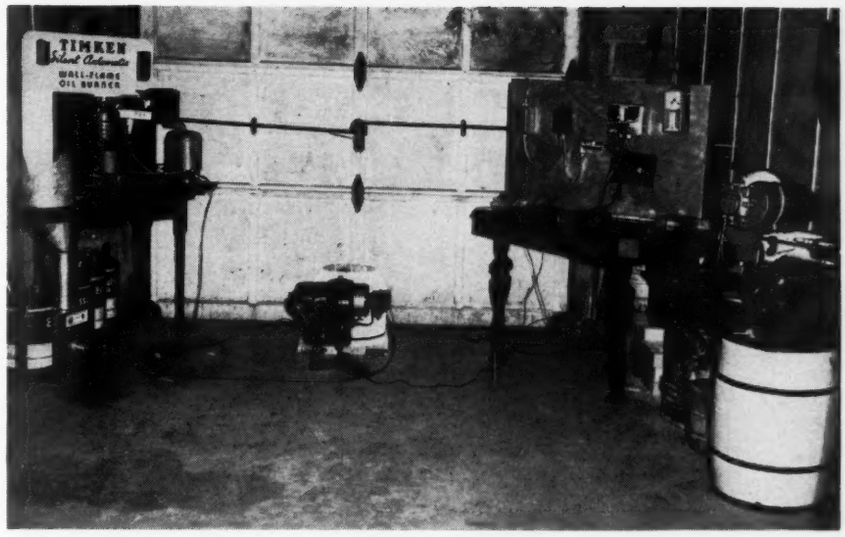
Newman recently began to use Page-ette pocket-type radios, portable AM receivers that can operate from self-contained batteries or as a mobile unit in car or truck. Since the one Page-ette has been used for so short a time, Newman says he hasn't been able to determine exactly if it cuts down on mileage or improves dispatching efficiency, but he has found a useful application.

"They are a real convenience," he says, "when a serviceman is on a job. He doesn't have to keep checking by telephone with the office, but instead he merely has to stop for a few seconds, listen to the messages recorded on tape. If he hears a message preceded by his code number, he makes a note of it. And, since the messages are repeated for an hour, if he listens every 30 minutes, he's in almost constant touch with the office."

Another very handy use for the pocket radio, Newman reports, is when it is carried by a stand-by serviceman. Newman's night man, incidentally, is in the office from 3:00 to 9:00 P.M. and then on stand-by until midnight, after which Newman handles the calls. With the Page-ette, he is free to do whatever he pleases, visit friends, go to the movies or almost anything else and still maintain contact with the office and quickly answer any calls.

The radios, made by Page-ette Communications, Cincinnati 2, Ohio, are good up to a 30 mile range. Newman's office reports the service calls to a central transmitter, where they are taped and broadcast. They are briefed by using code names and numbers, and consist essentially of an identifying code number, another code number which refers to a specific oilburner complaint, the address of the trouble and then signed with a code name for Newman's company. Thus, the serviceman can identify his own messages promptly, the code names and numbers assure him that they are authentic and he gets an indication of the cause of the trouble.

Last fall between service calls Newman and Dick Maunz started making an 8mm movie, picturing the company's operations, equipment and personnel. After about four months' work the film was completed and represented a net cash outlay of about $60.



Top: *Some of the dealers for whom Newman handles service have little or no technical knowledge about oilburners. Either they have never had occasion to do any service or installation work or they are former coal dealers whose only concern had been fuel delivery. Newman uses this training set-up in his shop to teach such dealers and their employees at least the fundamentals of oilburning to enable them to correct simple service troubles themselves.*

Bottom: *Here are two of the four 1954 Nash Rambler station wagons Newman and his men use for burner service work. At left is Dick Maunz, with Newman in the center and at the right, Allan Spaulding, Spaulding-Yates, Inc., one of Newman's major contract accounts.*

It's surprisingly good in its approach, presentation and scope, running about 20 minutes with narrative by a professional radio announcer on tape and dubbed in background music.

Newman is using it right now to show prospective accounts just how his service to their customers functions.

Summing up his accomplishments during the five years he's been operating, Newman says, "Today we are able to offer a dealer with two or three hundred accounts the service facilities of an organization including four servicemen, modern service cars, radio dispatching and insurance at a cost proportioned to their volume of business. During the past year we have been under contract to a leading distributor to supply oilburner service to all his retail accounts, as well as placing ourselves at the disposal of the dealers.

"We keep the cost to the dealers at a minimum and in the course of routine service work, we are able to pick up other repair and modernization work. These include shop overhauls of burners during the summer, with replacement of electrodes and insulators, wire, coupling, right on down to a new paint job. Also, we do some replacement of combustion chambers, vacuum cleaning, install blowers, circulating pumps, humidifiers, oil filters and similar accessories—in fact, we are dedicated to furnishing anything that will give the customer, more heat with less fuel."

Trading old for new

OILBURNER SERVICE CONTRACTS, including parts, have become increasingly popular during the past few years. And Sid Harvey, Inc., Valley Stream, N. Y., takes credit for making a significant contribution to this growth because with their rebuilding services they have made the price of replacements parts much lower.

General policy, as a matter of fact, is to sell the rebuilt part to the trade at half the cost of a new part, assuming an old part is traded in at the time of the purchase. So, an oilheating dealer faced with the problem of meeting high labor costs now feels he takes less risk in committing himself to replace parts on a service contract.

Knowing that he can pick up "half-priced" rebuilt parts at any of Harvey's 33 branches in the Eastern states, the dealer replaces more parts rather than try to patch them up and risk call-backs. Then he also enjoys a Harvey guarantee on the rebuilt part which, of course, would not apply if his men were reconditioning parts on the job or in the dealer's shop.

Harvey's principal business has been developed around his rebuilding services, but, at the same time, the organization has become an important supply house through its 33 Eastern branches. The result is that only about one-third of the gross dollar volume is in rebuilt parts, while two-thirds of the income is derived from new product sales.

In addition to the Valley Stream headquarters and the other branches, Harvey sells oilheating products by mail to all parts of the country and there is even a fair amount of equipment shipped outside the country, particularly to United States possessions, such as Alaska.

On specific items, such as pumps, motors and controls, Harvey sells nine rebuilt units to one new and believes that in the country as a whole the same ratio would just about hold true. On the other hand, the firm annually sells 80,000 oilburner nozzles.

The plant occupies an acre of floor space, with the pictures on this and

the facing page offering some typical views of the present set-up. Just about a year ago the firm weathered a disastrous fire and today is continuing its services from even more modern and efficiently-designed buildings.

A measure of the company's effectiveness can be gauged from the fact a number of parts are produced for obsolete burners, so that an oilheating dealer who is a Harvey customer often stands a better chance of getting an oil contract by assuring a customer it can supply parts for the more critical or antique types. Also, while rebuilt motors are not handled too often—principally because almost every town has a motor rebuilding shop of one kind or another—Harvey does considerable work with obsolete motors. Often these cost more than new ones, but dealers are willing to pay a surcharge, either because the motors are out of production or because it would take too long to get a replacement through the manufacturer.

Most popular parts being rebuilt are pumps and stack relays. A valuable service that manufacturers benefit from is Harvey's policy of rebuilding obsolete models.

Briefly, in rebuilding oilburner parts Harvey modernizes them. For example, if there has been an improvement or modificaiton added by a pump manufacturer, this is always incorporated in the old model if physically possible. First step is removal of the original finish, grease and grime in a series of acid baths. Then, after the part has been machined and re-assembled, it gets a very professional finish and looks like new.

Brothers Sid and Lawrence Harvey are the principals in the business and in the stores operated in the New England and Mid-Atlantic states, south as far as Norfolk, Va. One man operates a Harvey outlet in Florida. In the active areas, Harvey trucks pick up and deliver to the dealers, but a great deal of the business is over-the-counter.

Extra-curricular activities sponsored by the organization include 23 training schools with evening sessions held last year, an open house day, trouble shooting school once a month, with a variety of lecturers discoursing on specific problems and products.

Profits in Cooling

Part III. An Explanation of the refrigerating Cycle; a Discussion of the heat Pump

by
J. R. Lewis

THERE ARE A NUMBER of variations in different lines of equipment that are used to provide comfort cooling for dwellings just as there are may types of units that are used to heat these homes in cold weather. Since the installer's experience with cooling equipment is far more limited, it should help to know that now there is more uniform design and more uniform construction on the cooling components than there have been for the heating elements. It, therefore, is desirable to have a good understanding of the theory and principles of the basic design in order to avoid lost time or other needless expense in selecting, installing and maintaining any one of the many good makes of available residential cooling units.

One of the oldest laws of physics is that energy cannot be created or destroyed, but energy may be transposed from one condition to another. It is in this way that the refrigeration cycle uses energy to get from one temperature condition to a different temperature condition and then circulation of the refrigerant means transposing heat.

The refrigerant can be almost any gas or fluid that is capable of being pumped through the equipment. However, hydro carbons are the gases which have been developed to transpose greatest quantities of heat from one condition of temperature and pressure to another condition of temperature and pressure to meet the requirements of comfort airconditioning.

The most popular of these is dichlorodifluromethane, popularly termed F-12. Table #1 shows the temperature, the absolute pressure, volume and some of the heat properties of this refrigerant.

Both in theory and in practice, any refrigerant must be recirculated to maintain economical operation. Furthermore, for comfort airconditioning temperature requirements, the refrigerant in the evaporator should absorb heat at temperatures between 40° and 50° in order to cool air over the evaporator to a temperature below 70°.

The amount of heat absorbed under these conditions by the refrigerant can be disposed of conveniently on the other side of the cycle at the condenser where air at approximately 90° or water at a lower temperature should be available to get rid of the heat that isn't wanted. In reviewing figures in Table #1, note that the second column shows absolute pressures and that 14.7 lbs. absolute is 0 lbs. gage read-

Table 1

PROPERTIES OF DICHLORODIFLUOROMETHANE (F-12)

Sat. Temp. F	Abs. Press. Lb. per Sq. In.	Volume		Enthalpy from —40 F			
						25 F Superheat	50 F Superheat
		Liquid	Vapor	Liquid	Vapor	Enthalpy	Enthalpy
0	23.87	0.0110	1.637	8.25	78.21	81.71	85.26
2	24.89	0.0110	1.574	8.67	78.44	81.94	85.51
4	25.96	0.0111	1.514	9.10	78.67	82.17	85.76
5	26.51	0.0111	1.485	9.32	78.79	82.29	85.89
6	27.05	0.0111	1.457	9.53	78.90	82.41	86.01
8	28.18	0.0111	1.403	9.96	79.13	82.66	86.26
10	29.35	0.0112	1.351	10.39	79.36	82.90	86.51
12	30.56	0.0112	1.301	10.82	79.59	83.14	86.76
14	31.80	0.0112	1.253	11.26	79.82	83.38	87.01
16	33.08	0.0112	1.207	11.70	80.05	83.61	87.26
18	34.40	0.0113	1.163	12.12	80.27	83.85	87.51
20	35.75	0.0113	1.121	12.55	80.49	84.09	87.76
22	37.15	0.0113	1.081	13.00	80.72	84.32	88.00
24	38.58	0.0113	1.043	13.44	80.95	84.55	88.24
26	40.07	0.0114	1.007	13.88	81.17	84.79	88.49
28	41.59	0.0114	0.973	14.32	81.39	85.02	88.73
30	43.16	0.0115	0.939	14.76	81.61	85.25	88.97
32	44.77	0.0115	0.908	15.21	81.83	85.48	89.21
34	46.42	0.0115	0.877	15.65	82.05	85.71	89.45
36	48.13	0.0116	0.848	16.10	82.27	85.95	89.68
38	49.88	0.0116	0.819	16.55	82.49	86.18	89.92
39	50.78	0.0116	0.806	16.77	82.60	86.29	90.04
40	51.68	0.0116	0.792	17.00	82.71	86.41	90.16
41	52.70	0.0116	0.779	17.23	82.82	86.52	90.28
42	53.51	0.0116	0.767	17.46	82.93	86.64	90.40
44	55.40	0.0117	0.742	17.91	83.15	86.86	90.65
46	57.35	0.0117	0.718	18.36	83.36	87.09	90.89
48	59.35	0.0117	0.695	18.82	83.57	87.31	91.14
50	61.39	0.0118	0.673	19.27	83.78	87.54	91.38
52	63.49	0.0118	0.652	19.72	83.99	87.76	91.61
54	65.63	0.0118	0.632	20.18	84.20	87.98	91.83
56	67.84	0.0119	0.612	20.64	84.41	88.20	92.06
58	70.10	0.0119	0.593	21.11	84.62	88.42	92.28
60	72.41	0.0119	0.575	21.57	84.82	88.64	92.51
62	74.77	0.0120	0.557	22.03	85.02	88.86	92.74
64	77.20	0.0120	0.540	22.49	85.22	89.07	92.97
66	79.67	0.0120	0.524	22.95	85.42	89.29	93.20
68	82.24	0.0121	0.508	23.42	85.62	89.50	93.43
70	84.82	0.0121	0.493	23.90	85.82	89.72	93.66
72	87.50	0.0121	0.479	24.37	86.02	89.93	93.99
74	90.20	0.0122	0.664	24.84	86.22	90.14	94.12
76	93.00	0.0122	0.451	25.32	86.42	90.36	94.34
78	95.85	0.0123	0.438	25.80	86.61	90.57	94.57
80	98.76	0.0123	0.425	26.28	86.80	90.78	94.80
82	101.70	0.0123	0.413	26.76	86.99	90.98	95.01
84	104.8	0.0124	0.401	27.24	87.18	91.18	95.22
86	107.9	0.0124	0.389	27.72	87.37	91.37	95.44
88	111.1	0.0124	0.378	28.21	87.56	91.57	95.65
90	114.3	0.0125	0.368	28.70	87.74	91.77	95.86
92	117.7	0.0125	0.357	29.19	87.92	91.97	96.07

ing. In other words, a 23.8 lb. absolute reading is equal to 9.7 lbs. gage.

Furthermore, to understand the values in the table, it is important to know the definition of enthalpy. This is the total heat content of the refrigerant at various temperature and pressure conditions in excess of an arbitrary 0 reading for a temperature condition of —40°F. It may also help to explain that 50° of superheat means that the temperature exceeds by 50° whatever the saturation temperature would be at its actual pressure. For example: F-12 vapor at 40 lbs. gage or 54.7 lbs. absolute pressure and at a temperature of 80° contains 37° of superheat since its saturation temperature is about 43° at a pressure of 54.7 lbs. absolute.

To repeat, the heat transfer equipment that is used to perform the functions of the refrigeration cycle must convert driving energy to cause the changes in state which permit the refrigerant to perform its duties. The complete cycle is shown graphically as Figure 1. This indicates how the four important changes are maintained. Here is a further explanation:

1. The compressor's function is to pump vapor from the evaporator, maintained at low pressure, to the high pressure that is maintained in the condenser.

2. The condenser is maintained at constant high pressure while heat is being removed in sufficient quantities to cause the hot gas to become a warm liquid.

3. The expansion valve permits a rapid loss in pressure through regulation of an orifice that feeds warm liquid at whatever rate can be boiled within the evaporator to a vapor that is being removed from the evaporator.

4. The evaporator or cooling coil contains a boiling fluid because pressure maintained is low enough to cause the refrigerant to change from a liquid to a gas. This change in state requires the addition of heat equal to the latent heat of the fluid refrigerant. The boiling rate, therefore, directly measures the amount of heat that will be added to the evaporator by the air which surrounds the evaporator.

The same four steps described above can be shown graphically in a diagram like Figure 2 and Figure 3. The former does not take into account anything but theoretical temperature and pressure conditions. The latter shows the effect on the theoretical cycle by superheating refrigerant in the evaporator above saturated conditions, and by subcooling liquid from the condenser below the condition at which condensation first takes place.

The following practical conclusions may be drawn from a proper understanding of all of this theory. These are the points which the airconditioning dealer can use to good advantage on any comfort installation which includes cooling and probably will have need for dehumidification.

1. To reduce the work load (or power consumption) at the compres-

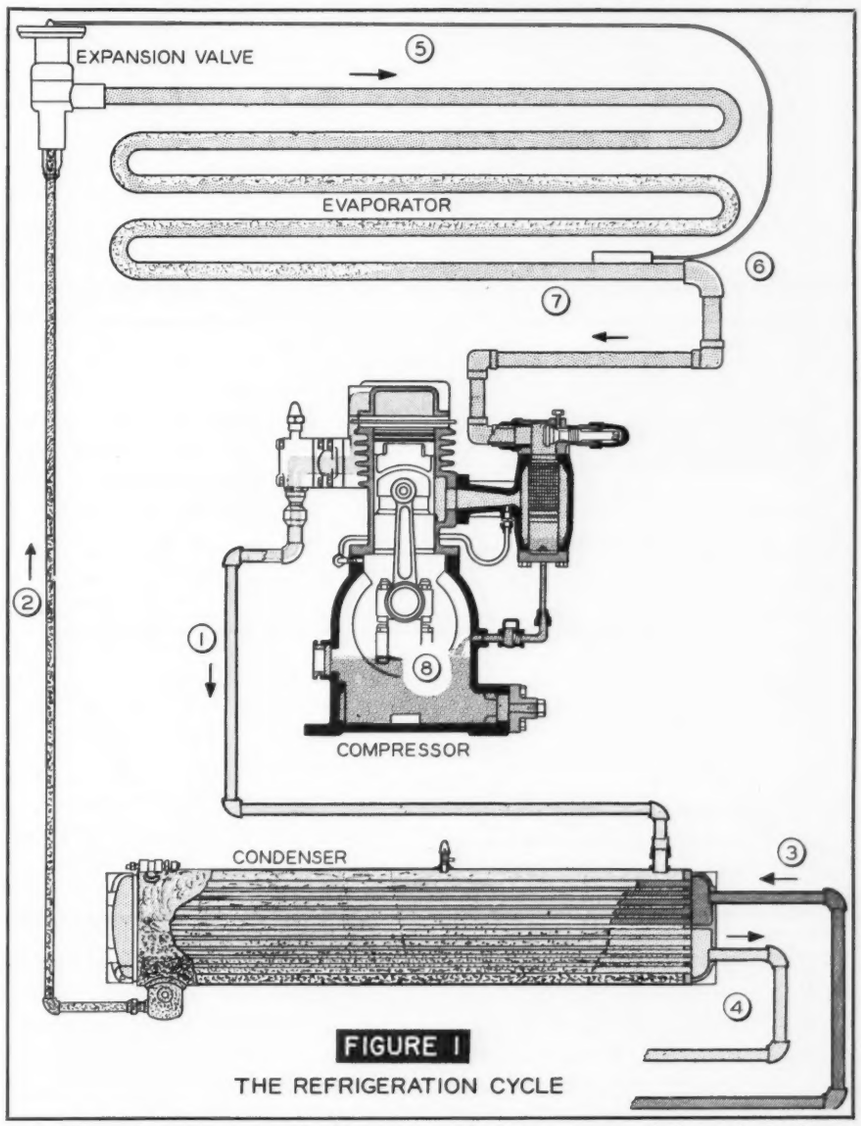


FIGURE 1
THE REFRIGERATION CYCLE

1. Hot refrigerant gas at high pressure which is maintained through discharge from the compressor.

2. Refrigerant that has been condensed to a liquid at high pressure through the removal of latent heat by circulation of water through the condenser.

3. Water supply to the condenser.

4. Water outlet at higher inlet temperature. This water could be wasted if supply is plentiful. It normally is passed through a cooling tower in which approximately 10% evaporates, thereby lowering the temperature of the remaining water sufficiently to enable its being reused through the condenser.

5. Refrigerant passing through the expansion valve to the tubes of the cooling coil is maintained at low pressures by the suction effect of the compressor intake.

6. Thermal element bulb attached to the outlet of the cooling coil and piping with capillary tubing to one side of the expansion valve diaphragm.

7. Refrigerant that has been evaporated to a gas in the cooling coil and then super-heated slightly as it is returned to the compressor intake.

8. Lubricating oil, a small quantity of which has circulated with the refrigerant and is being continually returned to the compressor crank-case.

FIGURE 2
BASIC REFRIGERATION CYCLE

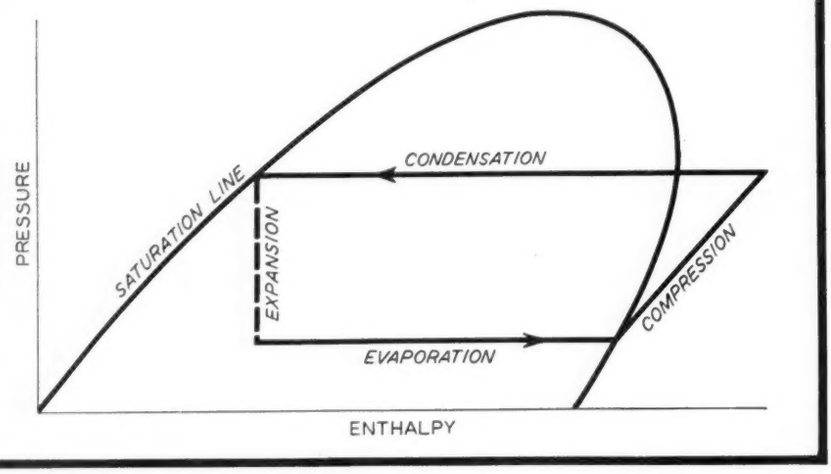
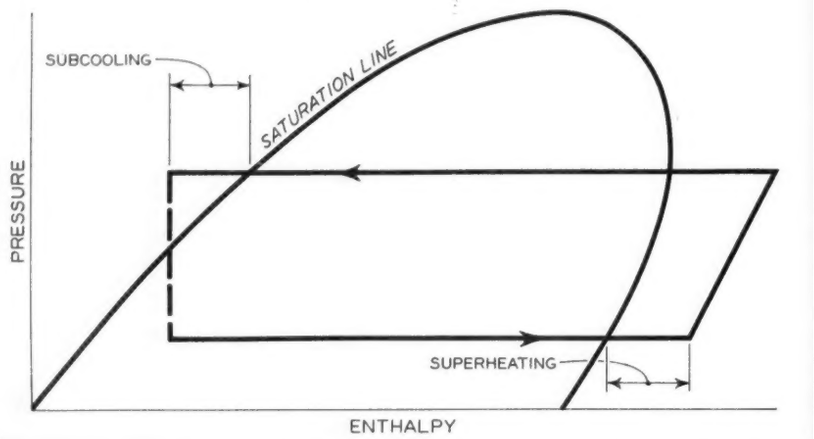


FIGURE 3
PRESSURE/ENTHALPY DIAGRAM
(INCLUDING SUBCOOLING & SUPERHEAT)



sor, the condensation pressure should be as low as is practical. Since a low cost undersized condenser will create excessive condensing pressures, it will turn out to be expensive in the long run. In like manner, skimping on water or air flow over the condenser will result in increased pressure and power consumption, with additional danger of overloading the compressor motor.

2. Assuming that the condensing pressure remains unchanged, note that an increase in evaporating pressure means (a) no change in enthalpy of entering refrigerant and (b) increased enthalpy of leaving refrigerant. This means more work performed by the refrigerant from less power consumed, thereby permitting higher cycle efficiency.

The desirable value for suction temperature is fixed within narrow limits by the temperature at which air should leave the evaporator and the practical maximum cooling coil surface. For direct expansion systems where refrigerant cools air circulated to the occupied spaces, the evaporator may be only a few degrees lower than the leaving air temperature. For water or brine circulating (indirect) systems, the refrigerant must usually be about 10° lower to get the water or brine cool enough to chill the air. When dehumidification requires low evaporator temperatures to make more moisture condense from the air passing the cooling coils, the result will be greater power consumption because of higher compression ratio.

3. In theory, superheated vapor should be avoided to reduce enthalpy and the amount of work done in creating the cycle. From the practical standpoint, however, it is desirable to provide for some superheat in the refrigerant leaving the evaporator coil. This is because the modern refrigerating compressor is a well-balanced high speed machine with small piston clearances to improve operating efficiency. It is undesirable to allow liquid refrigerant to enter the compressor suction ports. A positive means of accomplishing this is to adjust the expansion valve for moderate (5°-10°) superheat thereby boiling away any liquid that otherwise could be present.

4. In theory some subcooling is highly desirable as it increases the refrigerating effect at no penalty for compressor driving power. It also is possible to have a lower condensing pressure (and better overall efficiency) with subcooling instead of just saturated refrigerant conditions. This is because subcooling gives more refrigerating effect from less refrigerant circulating through the condenser. A condenser that might otherwise be heavily loaded has more surface transfer with which to get lowest possible condensing temperature (and pressure) from available coolant.

For these reasons some manufacturers use a special two-pipe heat exchanger allowing all refrigerant suction gas to pass over a pipe through which the liquid refrigerant is circulated between condenser and the thermal expansion valve. The prime purpose is to subcool the liquid. A second gain is to assist in providing some superheat and avoid liquid flow from evaporator.

Understanding this theory will help in learning the usefulness and general limitations of the heat pump. This is a system that uses the same components which are required for cooling in summer to develop heating required for winter. The system has been called "reverse cycle cooling," which is incorrect.

The refrigeration cycle operates in the same manner both summer and winter. However, when the indoor heating is necessary, the path of air

(*Please turn to page* 174)

Degree Days by Instrument

Fuel Demand Meter records combined Effect of Temperature, Sun and Wind on fuel Use

by

M. Lee Johnson*

IT HAS BEEN SAID that man's mastery of the world about him began when he stopped guessing and began measuring. The measurement of time started in the days of the ancient Egyptians. Man has made much progress in measuring time but he is still working on it and improving previous calculations.

Degree days are important to the fueloil dealer because this measurement enables him to deliver fueloil at a lower cost and with better service than by any other method.

The fueloil industry developed the concept of measuring degree days around 1930. This was so much better than the route system that the term "degree day deliveries" has become a common expression and its use a common practice.

Degree days are defined as the difference between 65° and the daily mean temperature when the mean temperature is less than 65°. Numerous studies have shown that in general, a space heated building will use no fuel until outdoor temperatures of about 65° or below prevail. This fairly well establishes the 65° base as a proper starting point.

However, buildings will use fuel in proportion to the average temperature below 65°, and the use of the mean temperature in computing degree days will lead to inaccuracies. This is most evident if we study a few typical spring and fall days. In this changeable weather the temperature may climb to 80° for a short time on a sunny day —then drop to 50° during the night. On such a day the mean temperature will be 65° and therefore zero degree days would be indicated. A thermostatically controlled building will use fuel during the time that the outdoor temperature is below 65° and therefore mean temperature degree days will not account for this fuel.

Mean temperature degree days have been used extensively because of the simplicity in obtaining readings. A maximum-minimum thermometer will give daily high and low readings or these can be obtained from the weather bureau or other sources. If individual observations of daily high and low temperatures are made it will be found that the number of degree days accumulated each day will vary with the time of day at which the high-low thermometers are read and reset.

If observation and reset times are made at or near the warmest time of day less degree days will be accumulated than if readings are made during the coldest hours. Weather patterns are not consistent enough to expect these figures to average out. While this error may be small compared to the first mentioned inherent error, the combined effect will provide a degree day reading that is limited in its accuracy and usefulness.

Many degree day operators know these conditions exist and apply daily "correction factors" to help compensate for the inherent errors of mean temperature measurements. These are called "Weighted" degree days and help considerably in scheduling deliveries and in avoiding "run-outs." The "brute force" method of correction is to schedule small deliveries at frequent degree day intervals so that even if degree day data is 30 or 40% in error the customer won't run-out, "Drys," as they say in Brooklyn. The greatest error in conventional mean temperature degree day calculations occurs when the daily temperature goes above 65°. In colder weather fairly consistent results are possible if good temperature information is available.

In recent years the gas industry has recommended using the average daily temperature rather than the mean temperature in computing degree days. This improves the accuracy but this method still will not reflect fuel consumption on days when the maximum temperature is above 65°. The mean temperature is half way between the high and the low. Thus on a day when the highest temperature is 60° and the lowest is 40° the mean temperature is 50° and 15 degree days will be accumulated.

M. L. Johnson

To obtain the average temperature it is customary to read and record the temperature at one hour intervals. This gives us twenty-four readings daily. These readings are added together and divided by 24 to get the average temperature. Over a 24 hour period if the temperature dropped uniformly from 60° to 40° the average temperature and the mean temperature would be identical. However, if the temperature dropped suddenly in a few hours from 60° to 40° and stayed at 40° for the balance of the day the average temperature could easily be 42° and 23 degree days would be accumulated.

To carry this reasoning further, it is possible to overcome the problem of days when the high temperature exceeds 65°. This can be done by ignoring all temperatures above 65° and obtaining the average temperature for the period of time the temperature is below 65°. The apparent degree days so obtained are then pro-rated by the

*Oakley & Oldfield, oil and burner dealer in Kalamazoo, Mich.

proportional hours that the sub 65° temperatures prevail and the actual degree days result. Mathematicians would call this "Integrating the area under the curve."

At one time the use of this method was considered and tried. When it required over an hour's time to gather the data and make the computations, it was discarded. Short cut methods were studied, but the development of an electrical and mechanical means that would do this quicker and better ended further efforts along this line.

The "Fuel Demand Meter" was developed primarily to obtain quick and accurate degree day readings. It determines the average daily temperature by "Integrating the area under the curve." By proper design it was possible to make this meter account for increased fuel consumption caused by wind velocity and decreased fuel consumption caused by the sun's radiation.

The meter reads directly in "effective" degree days which is a measurement of the net influence of temperature, sun and wind upon fuel consumption. The extent to which the meter accomplishes its purpose can be judged from the following data and reports.

Since the meter reads directly in "effective" degree days it is only necessary to write down the reading of the meter once each day. This may be done at any time of day, but it is most useful and helpful to make the reading when the office opens in the morning. This gives an up-to-date reading and tells you how far you should go in your degree day file to keep your deliveries current. Readings can be made, recorded, and double checked in less than a minute and the data obtained are better than those which would require an hour to compute by conventional methods.

In order to determine the accuracy required for this purpose and the relative accuracy of the meter, a number of tests and studies have been made.

There are certain variations in the fuel consumption of any building that are not functions of the weather. We all have experienced the situation where a house is sold and a new family moves in. The new family may use considerably more or less oil than the previous occupants. They may keep the house warmer, have children going in and out often or any of a number of reasons that may cause this change. These variations we shall attribute to the "habits of the occupants," and may vary somewhat from day to day and week to week during the heating season. If you recall the old rule of thumb formula that "each degree above 72° requires 3% more fuel" it is easy to see how variations can occur.

Other variable factors influence fuel consumption. Important among these are furnace efficiency, time of storm window erection and removal and changes in house construction.

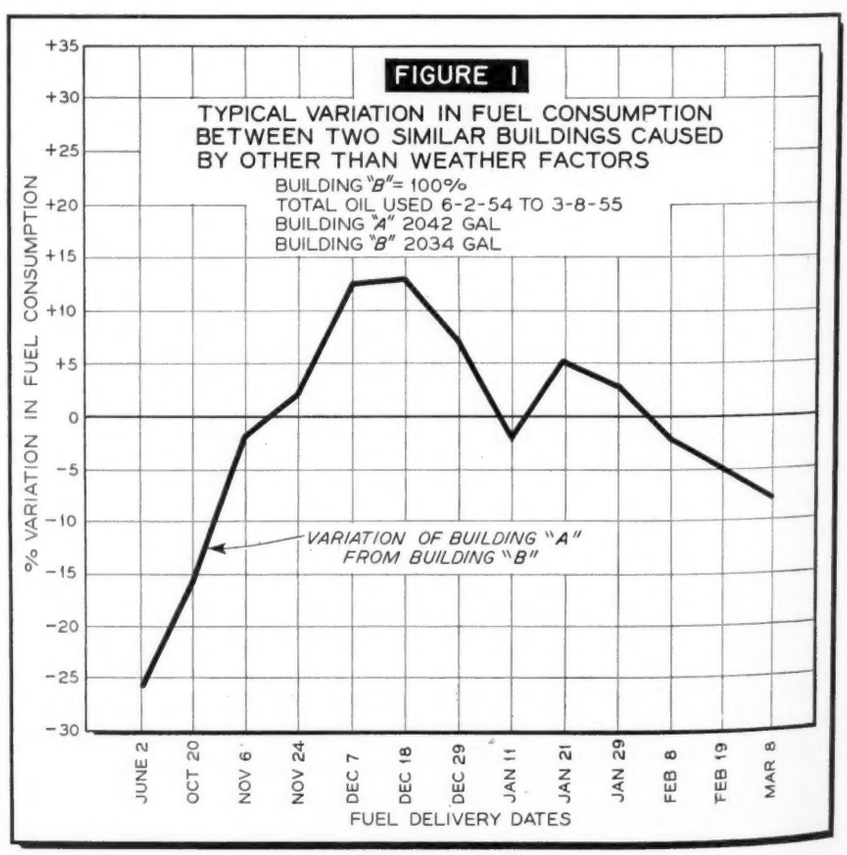
If these variations did not occur then the only factor that would influence fuel consumption would be weather conditions. If we could measure the weather perfectly then customers' "K" factors would be absolutely uniform from delivery to delivery throughout the heating season. It would be possible to plan 260 gallon deliveries to most 275 gallon tanks.

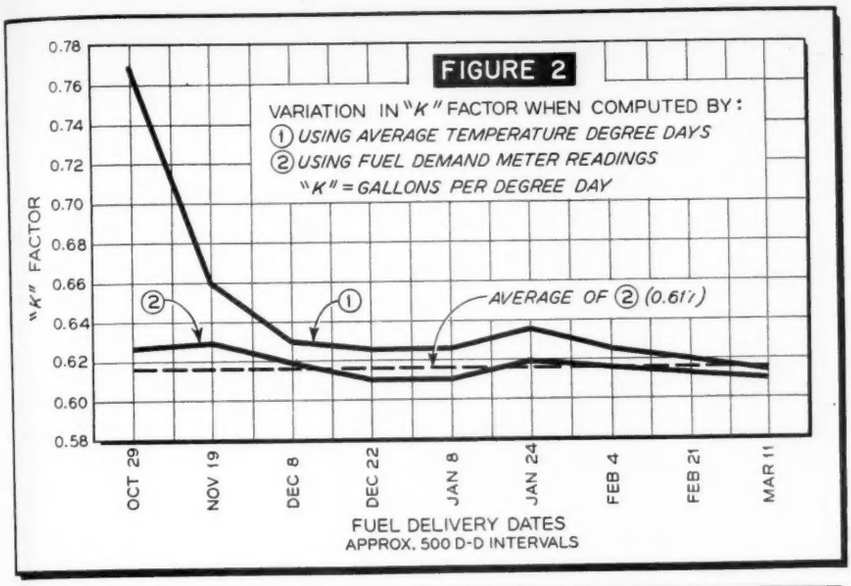
The "K" factor is the ratio of gallons of oil used to degree days. If a building uses 200 gallons of oil in 1000 degree days it will use 20 gallons in 100 degree days, 2 gallons in 10 degree days, and .2 of a gallon in one degree day. The amount of oil used in one degree day is called the "K" factor. The number of gallons used are divided by the number of degree days elapsed between deliveries. Many companies define the "K" factor as the number of degree days in which one gallon of oil is used.

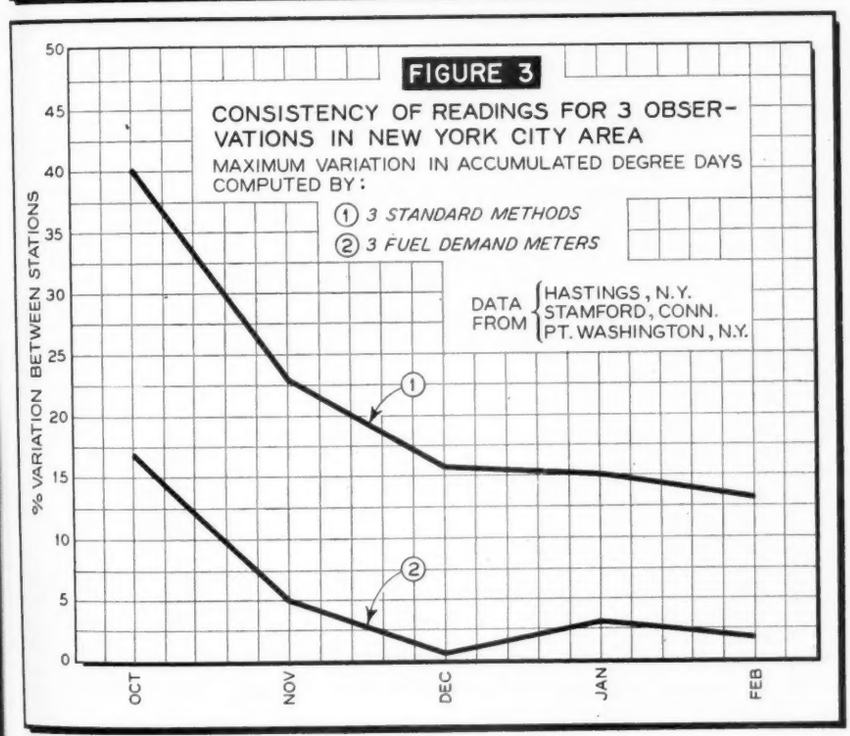
In the above illustration it is apparent that one gallon will be used in five degree days or five degree days per gallon. In this case degree days are divided by the gallons. Either method of figuring may be used. We like the "gallons per degree day" because the larger the building the larger the "K" factor; if a customer's oil consumption increases the "K" factor goes up. It is easier to explain this to new employees.

In order to get some idea of the magnitude of the variations in fuel consumption that are caused by other than weather conditions the following study was made.

From our experience apartment houses and commercial buildings have a greater variation in "K" factor than individual homes. Two typical apartment buildings side by side were







chosen. Each uses approximately the same number of gallons of oil annually. Space heating only—no hot water. Each has one 275 gallon oil tank equipped with a VENTALARM signal so that the tanks are filled uniformly each time. Oil deliveries have been made to both buildings on the same day and at the same hour for three years.

When one tank is filled the driver walks across the driveway and fills the other tank. In this way, for all practical purposes, weather factors are eliminated and any variation caused by other than weather conditions will be reflected by the difference in the amount of oil that is required to fill each tank.

In other words—if the two buildings use the same amount of oil each year, we would expect each tank to require about the same amount of oil each time the tanks are filled. Figure 1 shows the variation in fuel consumption between the two buildings on successive deliveries. Deliveries are about 400 degree days apart.

On June 22, 1954, building "A" requires 26% less oil to fill the tank than building "B." From June 2 to October 20, building "A" used 16% less oil than "B." From November 24 to December 7, building "A" used 12% more oil than "B." Sometimes, as on November 6, November 24, January 11, and February 8, they hold within 2% of each other. Over a period of three years a consistent pattern of irregularity has prevailed.

While this may appear to be a serious problem to meet in scheduling fuel-oil deliveries it is interesting to note that the composite "K" factor of both buildings held quite closely, and that by proper scheduling, deliveries averaging 200 gallons can be safely planned. Each building held much closer to its "K" factor when computed by "effective degree days" than they held to each other. Larger deliveries can be planned if a building has a consistent "K" factor.

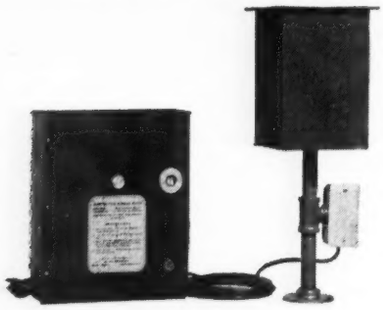
We can see that variations occur that are not the fault of degree day measurement. If these variations could be eliminated we could judge how well we are measuring the weather. This can be done by taking a large group of houses and averaging all "K" factors at regular intervals. It is unlikely that the "habits of occupants" will follow any definite pattern and in this way we "wash out" these variations.

A group of ten typical cards was selected at random from our degree day files. Each had at least one delivery per month beginning in October. The factors of all houses were averaged for each month and compared. The maximum "K" factor variation from average was ±2%.

In the Kalamazoo area there are several weather reporting stations including the official State station and the airport. Two or three other observations are made in the downtown area. These are all within a few miles of each other and all well within our delivery area.

On a cold day it is not unusual to have as much as 8° variation in the reported low temperatures. It is more common to have variations in the daily reported temperatures from each station than to have identical readings. It is evident that temperature variations exist in this area. Under these conditions if the Fuel Demand Meter will indicate an accuracy of ±2% that is all that could be expected.

Figure 2 tells a very complete story on measuring degree days and the accuracy of the Fuel Demand Meter. These curves show the variation in "K" factor for a typical large home



Johnson *fuel demand meter developed as a direct reading instrument to record degree days, weighing the combined effect of temperature, wind and sun upon the relative fuel consumption of space heated buildings. Basically, it consists of an inside integrating unit and an outdoor element, with the two connected by an electrical cable which transmits weather information to the inside indicator. This may be located at any convenient place, connected to a standard 110 volt outlet.*

from delivery to delivery. One curve shows the "K" factor when average temperature degree days are used. The other curve is plotted using "effective degree days" as indicated by the meter. Deliveries were made at about 500 degree day intervals.

Remember, if no "unknown" variations occurred and we could measure the weather perfectly, a uniform "K" factor would result on each delivery. If we plotted this "K" factor it would be an absolutely straight line throughout the heating season, similar to the average line of Figure 2. It is evident that the meter readings closely approach this condition.

In Figure 2 the "K" factor by average temperature data varies more than 20% while meter readings hold within 3%. In over 1,000 cards checked constantly by this method many cards will show a "K" factor variation of 5% or less. Some have held closer than 1%. All cards show a much wider variation when conventional degree day data are used.

Early last fall four Fuel Demand Meters were installed for test and observation purposes at fueloil offices in the East Coast area.

When the meter was first introduced, H. M. Spade of E. Robison, Inc., at Hartsdale, New York, could appreciate the probable advantages of such an instrument. He was willing to test a meter and to arrange for two other test locations in this area. One was installed at the Robison terminal at Hastings on Hudson, New York, one for the M. W. Fleming Co. at Stamford, Conn., and one at the Lewis Oil Co. at Port Washington, N. Y.

The simplest test would be to compare the meter readings with the degree day readings normally available at each location. Figure 3 compares the consistency between Fuel Demand Meter readings and conventional degree day measurements in one small area. These three locations are all within a twenty-five mile radius and consistent readings should result.

The Fuel Demand Meter curve says "Similar houses in this area should use about the same amount of fuel." The other curve says "There is a variation of more than 10% in the total degree days accumulated in this area."

Sherwood Bros. at Baltimore, Maryland, were recommended for a test location because of their extended experience in degree day deliveries. Because of the availability of excellent weather bureau information and the application of good correction factors, they are able to obtain consistent "K" factors. Tom Carson and F. P. Stratemeyer tested the meter and reported:

"We feel that this is extremely accurate, particularly in its compensation for any increased fuel demands which may be required on extremely windy days. There is no question as to its convenience and we would heartily endorse its use by anyone in any area, particularly where accurate outside temperature data are not available."

A number of other meters are in use and under test. These are at Naph-Sol Refining Co., Muskegon, Michigan, Crystal Flash Petroleum Co., Cadillac, Michigan, Standard Oil Co. of Ohio at Toledo, Ohio, Meenan Oil Co., Levittown, Pennsylvania, Princeton Fuel Co., Princeton, New Jersey, T. R. Loizeaux Fuel Co., Plainfield, New Jersey and Geo. A. Hamilton, Inc., Long Island City, New York.

Table I

		Total for Month and Accumulated Total for Season				
FOR HEAT ONLY	**	Oct.	Nov.	Dec.	Jan.	Feb.
DD's from Weather Bureau	**56**	**205**	**564**	**889**	**1067**	**842**
		261	825	1714	2781	3623
Our corrected DD's based on Weather Bureau	**175**	**228**	**577**	**892**	**1067**	**844**
		403	980	1872	2939	3783
Equivalent DD's registered by Fuel Demand Meter	**178**	**233**	**615**	**953**	**1110**	**918**
		411	1025	1978	3088	4006
HEAT & DOMESTIC HOT WATER						
Uncorrected DD's from Weather Bureau	**56**	**205**	**564**	**889**	**1067**	**842**
		261	825	1714	2781	3623
Our corrected DD's based on Weather Bureau	**688**	**314**	**587**	**842**	**1067**	**844**
		1002	1589	2481	3548	4392
Equivalent DD's registered by Fuel Demand Meter plus added adjustment for domestic hot water	**694**	**332**	**630**	**963**	**1110**	**919**
		1026	1656	2619	3729	4648

Comparison *of a conventional degree system, an adjusted degree day system and results using Fuel Demand Meter to compute degree days as compiled by H. M. Spade, E. Robison, Inc., Hartsdale, N. Y., for a five month period ending February 28, 1955. Spade comments on this tabulation by saying, "The tests have proven to our satisfaction that the meter is much more accurate than conventional* DD *system using the mean temperature for 24 hours, which are the figures usually furnished in Weather Bureau reports. It is also more accurate than the system we have used for many years, based on hourly temperatures but disregarding temperatures above 65°. In getting our daily totals we add a more or less arbitrary number of* DD's *on days when high winds prevailed since we know that this would have a considerable effect on customer's fuel consumption. However, our method was not accurate whereas we found that the meter would compensate for wind and also for solar heat more accurately than we could by guess work."*

Continuing, Spade points out: "During the mildest weather in October, the difference between our corrected method and the meter is not as great as the difference between those two methods and a conventional DD *system. However, as the season progresses you will notice that from November through February the margin increases between all three methods with the meter showing a substantial increase over the others."*

**Accumulated total on October 1, 1954 for fiscal Degree Day year starting June 1, 1954.

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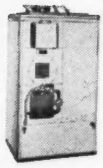
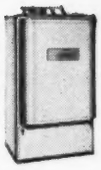
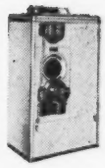


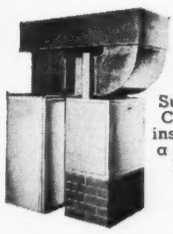
Year 'Round Air Conditioner equipped for Gas



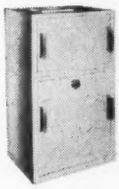
Year 'Round Air Conditioner with burner and Control cover

Same Unit equipped with Oil Burner

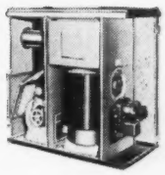




Summer Air Conditioner installed with a Forced Air Furnace.



Cooling Unit with integral Blower

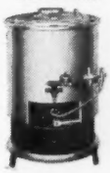


Basement A. C. Unit Burns either Gas or Oil

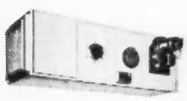
Counterflow Unit Gas or Oil

Utility Unit Gas or Oil

Gravity Furnace



Incinerator with or without Gas Burner



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Gas Unit Heaters

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the PLUS Of Ability to Burn Gas or Oil with Equal Efficiency

the PLUS Of a Choice of Either Air or Water-Condensing Cooling

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They are available in either Basement-Utility or Counterflow models. They utilize either gas or oil as a fuel. They adapt readily to either water-condensing or air-condensing cooling. They typify Luxaire design with installation in mind.

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HEATING & AIR CONDITIONING UNITS

fueloil & oilheat

One Man 'Task Force'

Sales, Installation, Service and fueloil Delivery are all in a day's Work for Keith Ault

IT IS NOT UNUSUAL for an oilheating organization to include every phase of the industry in its daily program, but when the organization is a one-man operation, and he performs all the required services by himself, then it is not only an oddity, but a one-in-a-million shot.

A former electrician in a Gary, Indiana, steel company saw the light burning in fueloil instead of electricity back in 1952, and as a result, Keith Ault of Griffith, Indiana, developed Keith's Oil Heating Service into an intriguing 'round-the-clock enterprise that encompasses all phases of oilheating, including oilburner selling, service, installation and fueloil delivery.

Keith's interest in the oil industry began during a lay-off period from the steel plant when he started handling a line of lubricating oil. From this point he became interested in other phases of petroleum and eventually wound up handling fueloil as the best bet.

To get started in a market which finds 60% of the homes heated with oil, 25% by coal and 15% using LP gas, Ault bought a surplus railway tank car for $250 and buried the tank in his backyard. The tank is kept filled by over-the-road transports from the nearby Standard of Indiana Calumet refinery.

It became obvious to the "one-man-band" that in order to build a large fueloil business, he would have to sell oilburners. As a consequence in 1953, Keith obtained a dealership with the Winkler organization.

Most of Keith's prospects come from present customers, and these are developed through his service calls. Since such calls provide him with an opportunity to develop sales, Ault, as a rule, stops for a cup of coffee in the kitchen and discusses oilheating prospects.

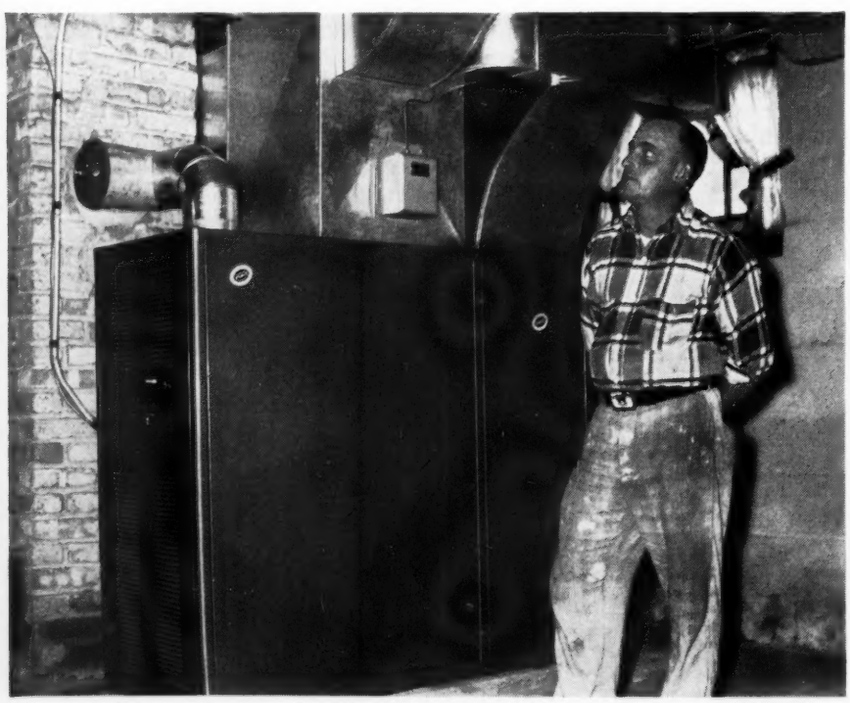
Testimonial to his success is evident from his accomplishment during the past year which shows that he sold 51 installations entirely by himself. In recognition of this feat, the Winkler people awarded him a plaque as dealer of the month for June, based on a record of 67 calls in 45 days for a net sale of 30 units.

Another means utilized by Ault in selling a job, and an accompanying photo illustrates this, involves taking the prospect into the home of a previous buyer for an on-the-job demonstration. Along with using this approach, Keith makes an elaborate presentation based on six pages of typed specifications and proposals. The unusual part about this sales program is that Keith has the time, in addition to his other activities, to develop it.

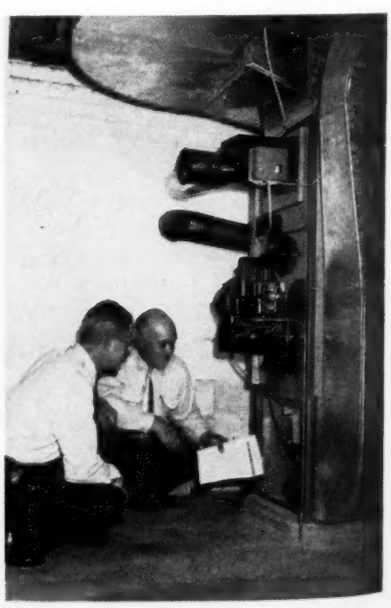
Although Ault is his own serviceman, he limits service to his fueloil accounts. He has no rigid schedule of charges, but the service is not free. Keith's charges are on a general give-and-take basis, depending on how much effort is required on a call, and what other conditions may apply to a particular customer.

While Keith is out on various business calls or up in the front office, Mrs. Ault takes care of the telephone calls. Since Keith owns his own apartment building in which his office is located, general efficiency is maintained. Incidentally, Ault built most of the apartment building in his "spare" time.

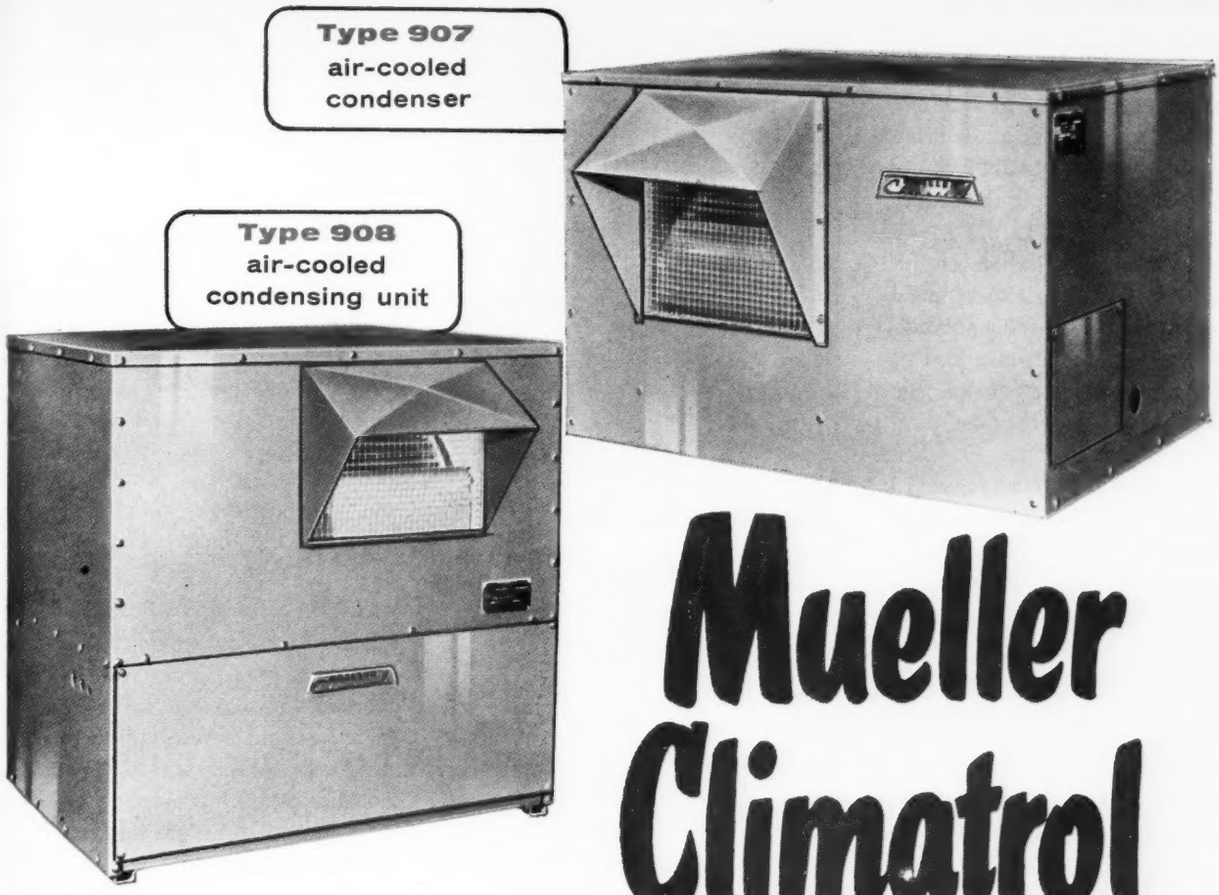
In featuring one of the higher-priced lines of oilburners, the one-man task-



A completed *furnace-burner unit installation demonstrates some of the duct work which Ault makes in his own sheet metal shop.*



Here Ault uses *a previously installed warm air job to demonstrate to a prospective purchaser the appearance of a completed job. He holds the specification sheet submitted as part of his sales presentation.*



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Type 907 — Converts any water-cooled unit (employing gas-cooled compressor) to air cooling. Available in two-, three-, and five-hp sizes. Weather-proof, rubber-base finish, to permit outdoor installation. Type 907 uses Freon 12 in the 2-hp size; Freon 22 in the 3- and 5-hp sizes. Angle hoods for inlet and outlet openings are available as optional equipment.

Type 907 contains condensing coil, fan motor and centrifugal blower. It employs the compressor in the air-conditioning unit to which it is connected.

Type 908 — Available in two-, three- and five-hp sizes, complete with heavy-duty compressor, for installation with any remote coil unit. All Type 908 units use 1100 CFM/ton condenser air flow and operate efficiently in ambients up to 110° F — considerably above average. The refrigerant is Freon 12 or 22.

Like the Type 907, the 908 has a weather-proof, rubber-base finish, to permit installing outside. Angle hoods for inlet and outlet openings are available as optional equipment.

Yes, regardless of the water conditions in your area, cooling can be a big, profitable part of your business. With Mueller Climatrol's complete line of equipment, you have a size and type for almost every installation. Get detailed facts and figures on these two new Mueller Climatrol condensing units now. Write Mueller Climatrol, Dept. 145, 2050 W. Oklahoma Ave., Milwaukee 15, Wisconsin.

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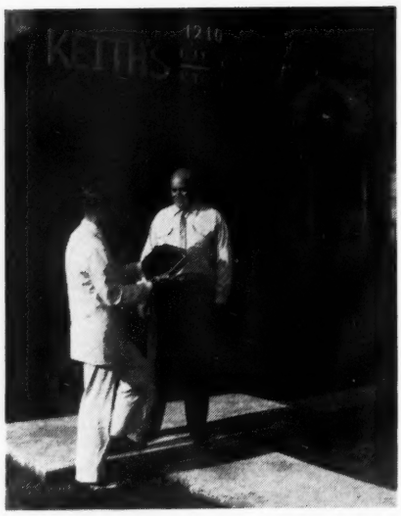
force explains that he feels his method of selling doesn't require the cheapest type of equipment, and, in addition, he has a better chance for a fair profit on what he believes is quality equipment, along with reducing the chance of service calls.

Supplementing installation of oilburners, Ault maintains a sheet metal shop at the rear of his apartment building, and there he fabricates a part of his own duct work. The photo on page 86 shows this type of work on a typical installation.

An interesting point with regard to Keith's fueloil work centers around his delivery system and the difficulty he experiences in operating an automatic delivery schedule. Because a number of his customers are employed by the steel mill, they want their oil delivered on pay day, and then pay cash for it. This, of course, put further pressure on Keith during payroll periods.

In sum total, then, the remarkable point about this story is that here we have one man, not only covering the entire field, but one who apparently is able to do it efficiently. He sells oilburners, installs them—the only help he ever uses is someone to help with lifting on an installation—then he services his own burners, makes some of his own duct work, and operates his own fueloil truck. Keith Ault is a remarkable example of what can be done when the individual really is determined to bet on oilheating for his future.



Keith Ault *is shown receiving the Winkler man of the month plaque awarded last June for a record of 67 calls in 45 days, resulting in the sale of 30 jobs. Ault is his own salesman, serviceman, fueloil truck driver and sheet metal man.*

❖

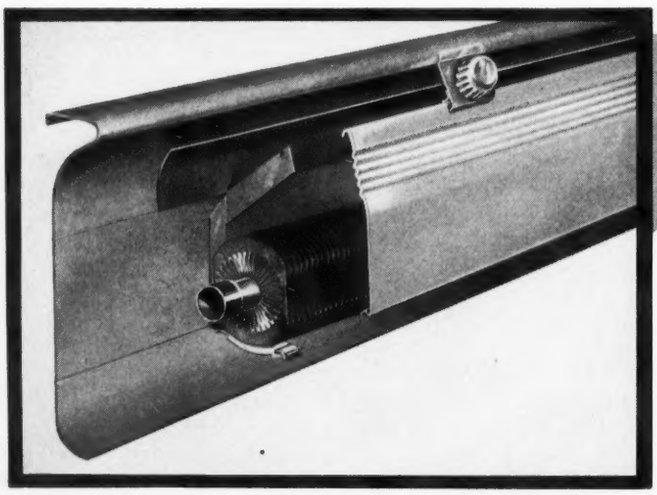
Roderick Stephens moves Headquarters to Seattle

REMOVAL of the executive offices of Roderick Stephens and Associates, Inc. from New York, to Seattle, Wash., was announced recently by Roderick Stephens, president of the public relations firm. Allen J. Johnson, consulting engineer of Lansdowne, Pa., will represent the organization in the East.

The switch to the West Coast grew out of the employment of the Stephens' organization as public relations counsel and fuels consultants by the Oil Heat Institute of Washington. In those capacities, the firm will survey the economic and safety problems which may arise when natural gas pipelines enter the state. Stephens will be accompanied by Hugh Holohan, who has been with the unit for eight years.

The Brightest Star in the Heating Industry Today!

BASEBOARD RADIATION by SPI-ROL-FIN



FEATURES

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ECONOMY

Spi-Rol-Fin performs a complete heating service . . . Perimeter heating to blanket cold outside walls . . . Convection heating to insure even distribution of gentle warmth . . . Radiant heating at "ankle-level" where the children play.

Low silhouette, wall hugging design means more usable floor space—more decorating freedom. The smart modern "look", achieved through smooth contours and "simplicity of line," blends with any decorative scheme. Truly modern heating quality and economy — to buy — to install — to operate.

Heating Contractors and Home Owners

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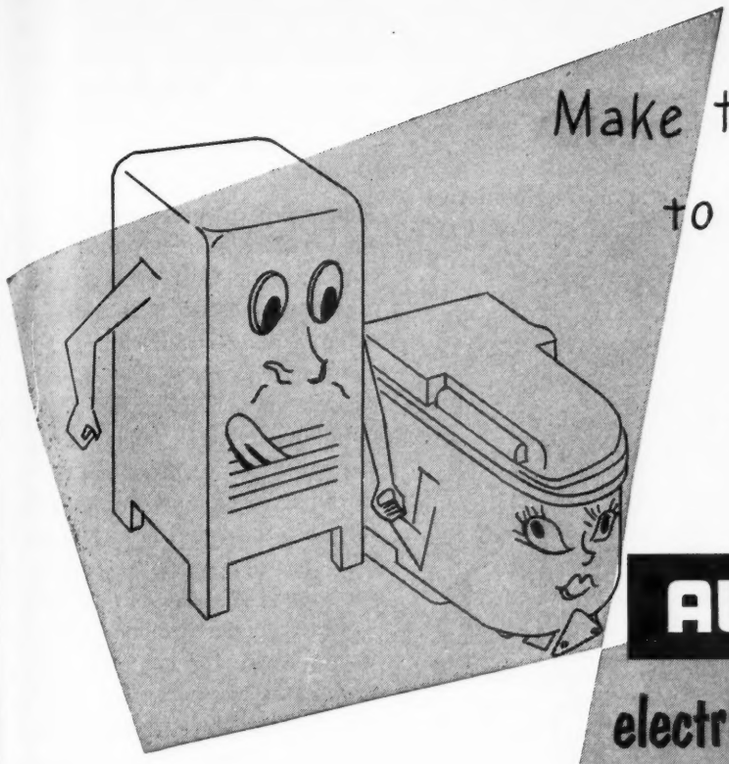
133 GREENWOOD AVENUE • PEQUANNOCK, NEW JERSEY

RESIDENTIAL BASEBOARD srf INDUSTRIAL FIN-PIPE
RADIATION PRODUCTS



Make these two TEAM-UP to help boost your oil burning appliance sales!

The AUTOPULSE electric fuel oil lifter pump

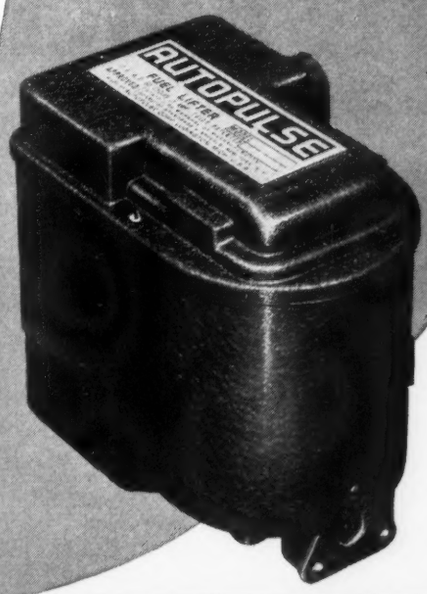
ANY oil burning appliance is easier to sell if you sell an Autopulse Electric Fuel Oil Lifter Pump along with it. By adding the automatic fuel supply feature you make any appliance cleaner, more convenient and desirable. The Autopulse pump is economical; costs less than any other, and in operation, uses less electricity than a forty watt bulb. Every customer for an oil burning appliance wants the automatic fuel supply feature and Autopulse is not only the best, it is the lowest priced of its type. Stock Autopulse and you will make more sales — you add extra dollars to every sale.

CONVENIENT: saves carrying containers, soiling hands, clothing — prevents spilling fuel on floors and carpets.

AUTOMATIC: works when fuel is needed, seldom needs servicing, maintains even temperature — nothing for the user to do.

EASY TO INSTALL: complete instructions with every pump package.

ECONOMICAL: costs little — runs only when fuel is needed.



Sell an Autopulse Pump with every oil burning appliance and increase your dollar volume and profit.

write today for complete information

AUTOPULSE *your automatic fuel supply*

AUTOPULSE CORPORATION 218 E. Dowland St., Ludington, Mich.

Fueloil costs $60 less in New York oil-gas Study

HEATING WITH FUELOIL costs a homeowner in the New York City area, just about $60 less than an eight month season of gas heat according to a recent study. An economist with one of the major oil companies having New York headquarters compared house-heating costs of anthracite, fueloil and natural gas.

He based his study on retail fuel prices in effect early in January 1955: $17.08 a ton of coal; 14¢ per gal. of fueloil and $1.63 per 1,000 cu. ft. of natural gas. On an equivalent heat basis, per million Btu's, coal cost $.69; fueloil $1.04 and gas, $1.59. Gas rate is that quoted by Consolidated Edison.

In computing the cost of natural gas, the volume used in the home for water-heating and cooking was taken into account, so that space-heating was figured at the lowest applicable price in the rate schedule.

Normal degree days and fuel consumption per degree day for an average small house determined the fuel requirements. Cost of fuel used for other purposes, such as cooking and water heating was excluded. No adjustment was made for efficiency of various types of equipment.

In dollars and cents the study showed that a homeowner in New York City could expect to pay $78.27 for a season of coal heat. His season's bill for fueloil would be $117.73 and for natural gas, $179.42.

The economist explains the growth in popularity for gas heating equipment in the area because of the smaller initial investment. The lower price of the gas installation is undoubtedly attractive to the builder who is not directly concerned with operating costs.

Also maintenance of the equipment often is provided by the utility at no charge to the consumer. As much as $18-$20 per year may be added to the homeowners cost by maintenance.

Below is a natural gas bill for January in New York City.

January

995 degree days	
226 therms/degree day	
224.9 therms for heating	

224.9 therms equals 22,490,000 Btu; 1,055 Btu/cubic foot. Therefore, 21,318 cubic feet are required. Assume 30.6 therms (2,900 cu. ft.) used for other purposes.*

Others Uses:	
1st 250 cu. ft.	= $ 1.00
Next 1,000 cu. ft. @ 24.6¢/100 =	2.46
Next 1,650 cu. ft. @ 19.6¢/100 =	3.23
2,900	$ 6.69

Heating	
150 cu. ft. @ 19.6¢/100 =	$ .29
2,050 cu. ft. @ 17.7¢/100 =	3.63
19,118 cu. ft. @ 15.7¢/100 =	30.02
21,318	$33.94
Adjustment	.48
3% city sales tax	1.03
	$35.45

On the same basis fueloil for this month would cost $19.46. This was computed to supply the same amount

*Source: Bureau of Labor Statistics, Retail Prices of Food, Electricity and Gas, Reprint No. 1433, Dec. 1941, p. 17.

OPPORTUNITY FOR DEALERS!

GILBARCO

ANNOUNCES

NEW LOW PRICES

for its line of heating equipment

Gilbarco has new decentralized distribution facilities now in operation to complement its expanded production facilities. This means that dealers can sell the famous Gilbarco line of heating equipment at prices that meet and beat competition—with no narrowing of dealer profit margins. For a wider market and more sales and profits, investigate this opportunity today.

SEND THIS COUPON—ACT NOW!

Gilbert & Barker Mfg. Company
West Springfield, Mass.

Dear Sirs: Send me all the facts today on your oil burner Dealer Plan.

Name_____

Address_____
(STREET)

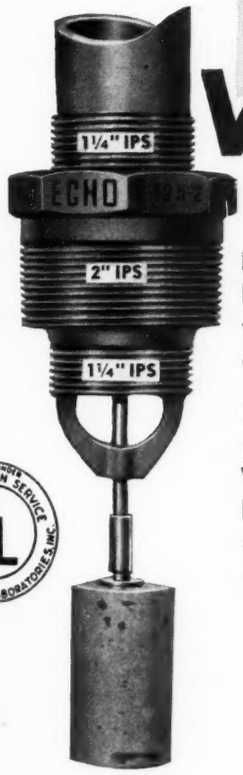
City_____ **State**_____

Fast!... Safe!... Automatic!...

*50% LESS INVENTORY
•
INSTALLED EASIER
•
FILLS FASTER
•
LOWER COST
•
FOOLPROOF

ECHO VENT SIGNAL

Patented in Canada — U.S. Patent Pending



Model "A"—(for threaded connections)—A one-piece Reducing Bushing and Vent Signal combined. Each signal designed to fit two openings. Made of high grade grey-iron casting, rustproofed and attractively finished. Sizes for all requirements. Easy to install.

Model "C"—(for non-threaded connections)—A leakproof Compression fitting combined with a one-piece Reducing Bushing and Vent Signal. Compression fitting consists of Nut, Oilproofed Rubber Gasket and dome-shaped Steel Washer. Made of high grade grey iron casting, rustproofed and attractively finished. Sizes for all requirements. Simple and easy to install . . . use only a wrench.

SAFE FUEL OIL LEVEL

PRE-SET PERMANENTLY AT FACTORY

MODELS FOR EVERY TANK — OLD OR NEW

MODEL "A"
* TWO-IN-ONE FITTING

This device whistles while tank is being filled. When tank is full whistle automatically shuts off. It is — positively foolproof — unconditionally guaranteed against defective workmanship and materials.

MODEL "C"
* TWO-IN-ONE FITTING

A. B. CARLSON & COMPANY INC.

349 WOODLAWN AVE. MANUFACTURERS OF THE POPULAR ECHO—OIL BURNER ACCESSORIES **AURORA 6, ILL.**

fueloil & oilheat

of Btu's shown in the above table to be required for heating. Thus, it is the equivalent of 18,418 cu. ft. of gas (21,318 cu. ft. less the 2,900 cu. ft. estimated to have been consumed for "other purposes"), with 1,055 Btu/cu. ft. or 19,431,000 Btu. Then, applying against this figure the 140,000 Btu in each gallon of fueloil, we find that 139 gallons @ 14¢ would carry the load.

The study pointed out that both gas and oil prices fluctuate within an area. For instance in Manhattan, Brooklyn and Queens fueloil costs 14¢ per gal. while in the Bronx and Staten Island the cost is 14.10¢ and in nearby Mt. Vernon 14.30¢.

❖

Scaife Company purchases Timken Silent Automatic

THE TIMKEN Silent Automatic Division of the Rockwell Spring and Axle Co., Jackson, Mich., was purchased April 1 by the Scaife Co. of Pittsburgh, Pa., a metal fabricator of pressure vessels, such as tanks for gases and liquids.

According to A. V. Murray, president of Scaife, "The purchase of this business is part of a long-range expansion program by Scaife into products which are sold directly to the consumer." Murray felt that "the sales volume of Timken heating units can be expanded far beyond anything yet achieved," and he added that "the entire top management of Scaife will devote its time to making this new operation a success."

Joining the Scaife organization as vice-president, Sales—Heating Division is T. A. Crawford, for many years associated with Timken.

Present plans for Timken call for an accelerated program of product engineering, research and improvement; a strengthening of merchandising and promotional effort, and an expansion and modernization of production facilities. It has also been reported that the Timken plant will be moved eventually to the Pittsburgh area.

The Scaife Company, one of the older manufacturers west of the Alleghenies, having been founded in 1802, is still owned by the Scaife family, with Alan Scaife as chairman of the board.

The addition of Timken will bring to Scaife an organization which has 900 distributors and dealers.

❖

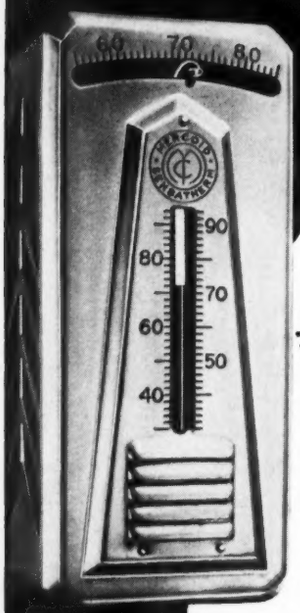
OHI Survey forecasts a good Year in 1955

MOST MEMBERS of the oilburner industry believed that 1955 would be the same or better than 1954 when they replied to a recent poll made by the Market Research Dept., Oil-Heat Institute of America.

Last year the replying group estimated that 1954 business would be slightly down, and it was. Of those answering the questionnaire this year, only 16% predicted less volume.

The commercial-industrial burner men (55% of them) expect an increase of 10% to 12%. This was true for each category: components and accessories, combination oil-gas burners, commercial-industrial boiler burners (including steam generators) and conversion burners.

Will the thermostat you specify provide safe, dependable operation today, tomorrow or a year from now?



BE SURE! specify the Mercoid Sensatherm—the Sensatherm is always dependable. The use of a hermetically sealed magnetic mercury switch eliminates the need of service calls as dust, dirt, grease or corrosion cannot contaminate the contacting elements. There are no contacts to weld or stick.

BE SURE! eliminate the need of call backs—the Sensatherm is engineered to operate without internal heaters—no adjusting required for each particular job.

BE SURE! don't guess—one standard Type H Mercoid Sensatherm will operate all basic primary controls and practically all domestic gas valves operating from transformer or thermocouple current.

Mercoid Sensatherms are available for heating, air conditioning and refrigeration.

Write for Catalog No. 700B

THE MERCOID CORPORATION
4205 Belmont Avenue,
Chicago 41, Illinois.

MERCOID® SENSATHERM

YEAR-AFTER-YEAR

THE Portmar WINDSOR

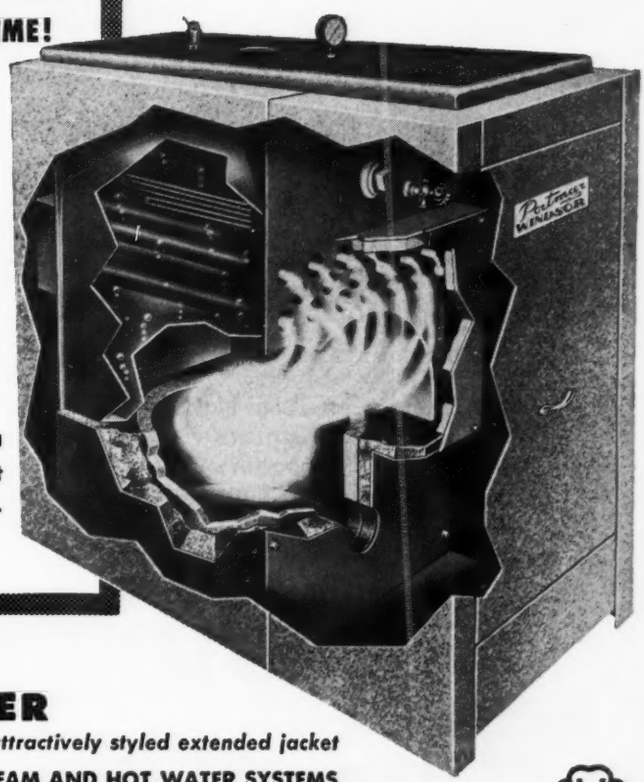
BUILDS BUSINESS VOLUME AND CUSTOMER GOOD WILL

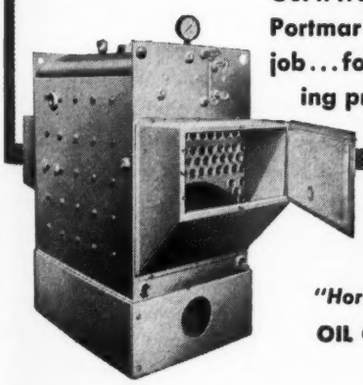
PRICED RIGHT FOR HOMES, APARTMENT HOUSES, COMMERCIAL BUILDINGS

The Portmar Windsor is an in-demand boiler which contractors can depend on for ease of installation and long range, trouble-free performance.
Contractors who regularly install the Windsor like its dependable, economical features . . . its high heating efficency, long boiler life, low maintenance, low operating costs which year-after-year assures more and more customer satisfaction.

PROVIDES MAXIMUM HEAT TRANSFER EVERYTIME!

- Sturdy shell is high-quality heavy plate steel
- Heavy steel boiler tubes are scientifically staggered
- Long gas travels completely absorb gases
- Large furnace volume extracts full benefits of fuel
- Heavy flange steel plate firebox crownsheet over the hottest boiler temperature for faster circulation
- Fully insulated door prevents warping and gas leakage
- Heavy duty door frame of unique design
- Instantaneous or tank type coils for year round domestic hot water





Get it from one source... there's a Portmar Boiler for every wet heat job... for the cottage or the housing project.

WINDSOR STEEL BOILER

"Horizontal Tube" Series with attractively styled extended jacket

OIL OR GAS FIRED • FOR STEAM AND HOT WATER SYSTEMS

12 Sizes: 77,000 to 720,000 BTU/hr.
Steam 320 to 3,000 sq. ft.
Water 510 to 4,800 sq. ft.

ASME

FOR FAST SPOT DELIVERIES, stocking warehouses in: Philadelphia, Penn. • Watertown, Mass • Chicago, Ill. • New York, N. Y.

PORTMAR ENGINEERED QUALITY STEEL BOILERS

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Portmar Boiler Company Inc.

193 SEVENTH STREET
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RESIDENTIAL, COMMERCIAL, INDUSTRIAL WATER HEATERS AND HEATING BOILERS • VERTICAL, HORIZONTAL TUBULAR BOILERS • ROTARY FLAME BOILERS

fueloil & oilheat

put
the
POWERFUL
motorpump
on your liquid handling jobs!

Keep oil on the move—keep pumping costs down —keep payloads speeding to your customers!

There's a lot of power in these rugged and compact Motorpumps.

You'll find straight centrifugal as well as self-priming types to handle all your oil moving needs—faster and more profitably. Sizes from ¼ hp to 75 hp. Capacities range from 5 to 2800 gpm, and heads to 650 feet. They're designed to stay on the job for years with minimum maintenance.

Find out more about Motorpumps and how their power and efficiency will improve your profit picture. Write today for the latest catalog on Motorpumps for handling petroleum products or see your nearest Ingersoll-Rand oil equipment jobber.

9-239A

MOTORPUMP

Ingersoll-Rand
11 Broadway, New York 4, N.Y.

The breakdown of opinion in the residential and C-I markets was as follows:

Accessories—83% of those reporting expect the same or larger volume; a bare majority anticipate an average increase of 8%.

Boiler Burners—94% expect the volume in 1955 to exceed or equal 1954; 56% look for an increase of 10%.

Furnace Burners — 90% predict same or better for '55; 57% of all reporting expect an 8% growth in volume.

Conversion Burners—40% expect less volume in the coming year; 30% expect the same volume, while the remaining 30% said volume would increase by 10%. These predictions cover actual conversion jobs, no burners. A separate question concerning burners for field assembly sold chiefly through jobbers brought a more optimistic appraisal, 78% felt there would be an increase in volume of 12%.

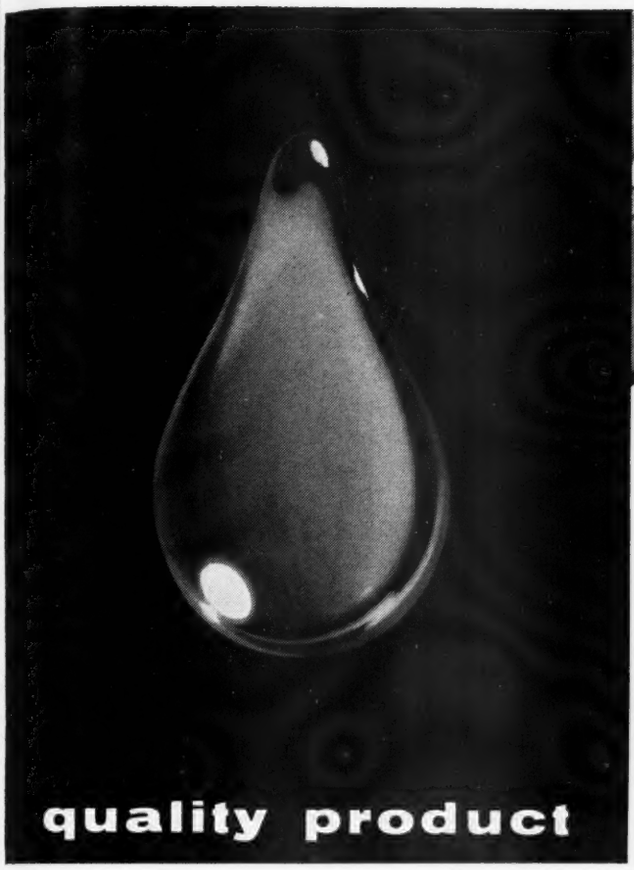
Furnaces and Boilers only—80% expect the same or greater volume in furnaces; 75% of the boiler men expect a moderate increase over 1954.

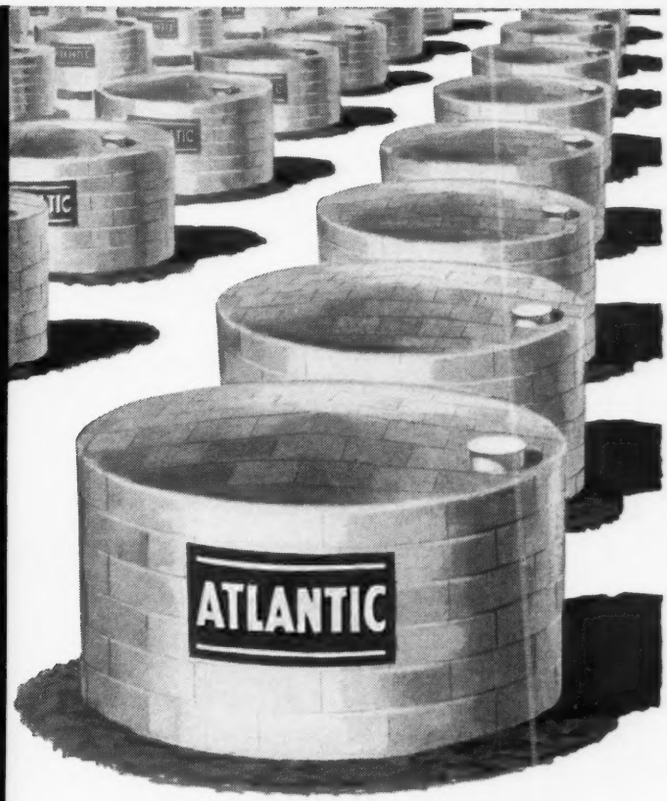
Commercial-Industrial Equipment —95% of the boiler burner and steam generator men predicted the same (42%) or better (53%) volume; only 5% look for a down trend.

Oil and Gas Combination Burners —90% see '55 holding its own or doing better.

Advertising budgets will be increased by 44% of those answering the questionnaire; 46% will equal last year's expenditures while 10% will cut down. Field sales work will be stepped up by 60%; 35% will repeat last year's program.

Comments: "Oilfired hot water heater or furnace with practical hot water system . . ." is needed by the industry. The oil heat industry can strengthen its position in the speculative builder market "by educating the prospective home buyer as to advantages, thereby influencing builder to install oil." . . . "By showing the builder how to promote oilheating as a feature favorable to house sales." . . . "By issuing a general handbook in common words for installers and servicemen, so that they won't install burners upside





dependable supply

ATLANTIC DISTRIBUTORS' "ONE-TWO" SALES PUNCH!

A high-quality product in continuous, dependable supply. Distributors know that this is necessary for success in the heating oil business.

And this is the advantage enjoyed by every Atlantic distributor. He sells the famous *triple-refined* heating oil with a *new additive* that helps prevent sediment from forming in tank bottoms, lines, filters and burner nozzles.

Atlantic's new "inhibiting" process makes for greater storage stability over long periods, and insures Atlantic customers steadier, cleaner-burning, more automatic heat with fewer service calls.

The new and improved Atlantic Heating Oils are available at conveniently located pipe line or water terminals. This means that Atlantic distributors can always depend on continuous, dependable supply.

Doesn't this add up to something worth looking into?

TERMINALS AT:

Providence, R. I.	Akron, Ohio	Baltimore, Md.
New Haven, Conn.	Allentown, Pa.	Salisbury, Md.
Albany, N. Y.	Altoona, Pa.	Richmond, Va.
Binghamton, N. Y.	Exton, Pa.	Charlotte, N. C.
Buffalo, N. Y.	Greensburg, Pa.	Greensboro, N. C.
Elmira, N. Y.	Johnstown, Pa.	Wilmington, N. C.
Rochester, N. Y.	Lebanon, Pa.	Spartanburg, S. C.
Syracuse, N. Y.	Mechanicsburg, Pa.	Albany, Ga.
Wayland, N. Y.	Northumberland, Pa.	Atlanta, Ga.
Newark, N. J.	Philadelphia, Pa.	Griffin, Ga.
Trenton, N. J.	Pittsburgh, Pa.	Macon, Ga.
Gloucester, N. J.	Reading, Pa.	Savannah, Ga.
Bridgeton, N. J.	Williamsport, Pa.	Jacksonville, Fla.
Boston, Mass.	Wilmington, Del.	

ATLANTIC
HEATING OILS

down, and to tell them it is absolutely necessary to connect cold air return of sufficient size." . . . "By promoting oil heat benefit—reduce installers cost of equipment." . . . "By improving installation and service practice—sell harder." . . . "By sending builders more material like the 'Levitt Testimonial.' "

"We believe that the oilheating industry will enjoy more business and more profits in 1955 than it did in 1954. This is primarily due to the fact that the general level of business in 1955 will be up over that in 1954 and that the new housing starts will increase over last year by approximately 5%." . . . "Watch for a tremendous growth in the liquid cooling industry. The oil heat industry can follow the trend or aid it if it will."

❖

Dodge reports Forty percent increase in March Building

ACCORDING to reports issued by the F. W. Dodge Corp., New York, N. Y., construction news and marketing specialists, building and engineering contracts in thirty-seven eastern states reached the highest March dollar totals in history.

Exceeded by only one previous month, May, 1951, the March construction contract total of $2,134,819,000 was 40% ahead of March, 1954, and 35% ahead of last February's record breaking high for that month.

In addition to March's record-breaking performance, the report noted that of even greater significance were the figures for the first quarter, which showed a 34% increase over the same period for 1954.

The detailed figures for March are as follows: Non-residential, $758,870,000, up 42% over February and up 43% over March, 1954; residential, which reached the highest total for this category for any month ever recorded in the report's history, $989,730,000, up 33% over February and 48% over March, 1954; heavy engineering, $386,219,000, up 28% over February and 18% above March, 1954.

First quarter figures for 1955 totaled $5,220,412,000.

❖

Thirty students to Graduate from N.Y. petroleum School

THE FIRST COURSE in petroleum distribution, management and technology sponsored jointly by the Petroleum Education Foundation and the Petroleum Distribution Department of the New York City Community College will graduate thirty students on June 16, 1955, with a degree of Associate in Applied Science.

Geographically located in Manhattan, Brooklyn, Bronx, Queens, and Staten Island, the graduates have been trained for the following fields within the petroleum industry: salesman, technical assistants, traffic, shipping, dispatching, motor transport operation and maintenance, administrative assistants, general clerical personnel, and service station management.

For further information with regard to the availability of the graduates for employment within the industry, inquiries should be addressed to Mr. Max Streisand, faculty adviser, New York City Community College, 300 Pearl St., Brooklyn 1, New York.

Mr. Service Manager

Delavan Nozzles Save You Money!

That's right, you actually save money by using Delavan Nozzles even though they may cost you a few cents more. Because, in 99 plus out of 100 installations Delavan Nozzles produce a soft, quiet fire the *first* time. When your serviceman is forced to try two or three nozzles to get a good fire, you have lost money even if the nozzles were free.

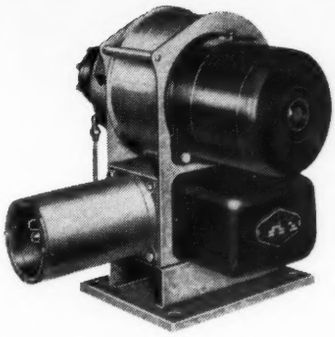
The time he spends is so expensive to you, that it will pay you to be sure he has nozzles that will deliver a good fire the first time . . . every time. Insist on Delavan Nozzles the next time you buy. They'll pay for themselves over and over again.

To prevent clogging in nozzles of 1 GPH capacity or less, install DELAVAN NOZZLES with HALLY FILTERS attached.

Write for Catalog 148B

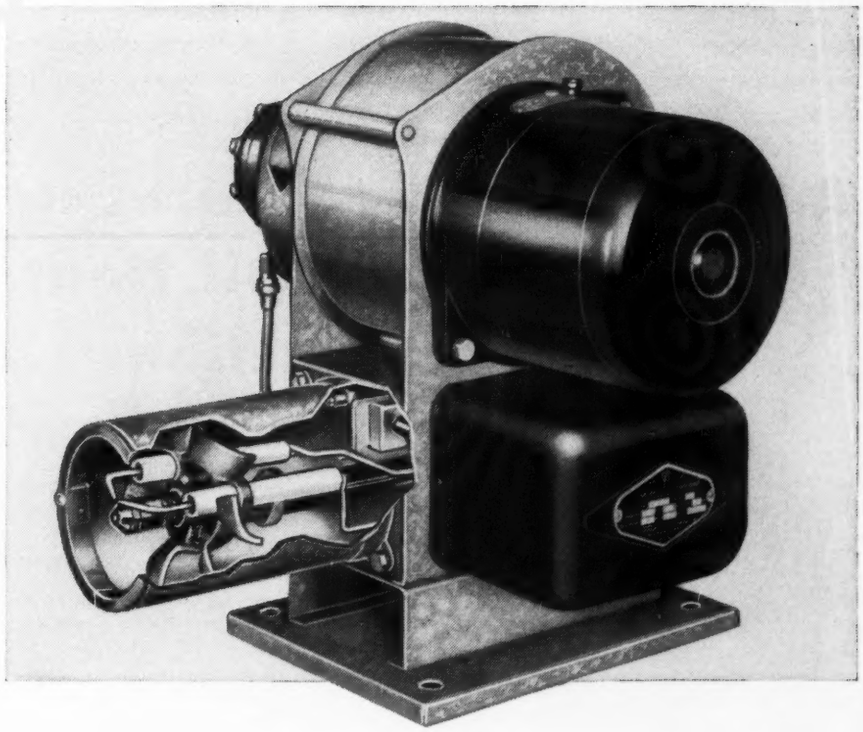
DELAVAN Manufacturing Company

Grand Avenue and Fourth Street • West Des Moines, Iowa



Versatile New American-Standard Oil Burner

will boost your sales



popular-priced burner fits all residential boilers and furnaces

The new American-Standard Arcoflame Oil Burner is a top-quality unit . . . the kind every home owner wants . . . and it's competitively priced for easy sales. Take a look at these features and you'll agree that the new Arcoflame Oil Burner is a cinch to take top honors as a sales leader.

Light Weight . . . One man can handle and install the new Arcoflame . . . it weighs only 52 pounds.

.75 to 3 GPH Capacity . . . Meets most home heating needs.

4 Gun Lengths, 14 Nozzles . . . Makes the high pressure Arcoflame one of the most versatile oil burners on the market.

3 Mounts . . . Pedestal, hanger, and flange arrangements adapt Arcoflame to all installations.

Fully Tested . . . Laboratory, field and factory tested to assure the best in efficient, low cost operation. Listed by Underwriters' Laboratories, Inc. for Nos. 1 and 2 fuel oils.

Quiet Operation . . . Regulated oil flow eliminates feedback hum. Single shaft for motor, fan, and pump with flexible coupling gives excellent alignment.

New Design . . . Variable air choke rings for peak performance over entire firing range. Adjustable flame stabilizer for fast, accurate positioning of flame. Simple, positive adjustment for correctly locating nozzle.

Sturdy Blower Housing . . . 14-gauge steel housing surpasses U.L. requirements.

Standard, Top Quality Parts . . . Easier servicing and maintenance. Unit equipped with standard, readily available parts including NEMA motor.

Attractive Appearance . . . Forge Red and black finish harmonizes with any boiler or furnace.

See your distributor for further information, or write to us direct for form 44-8, Plumbing and Heating Division, American Radiator & Standard Sanitary Corporation, Dept. FU-55, Pittsburgh 30, Pa.

AMERICAN-Standard
HOT WATER HEAT

Serving home and industry: AMERICAN-STANDARD · AMERICAN BLOWER · CHURCH SEATS & WALL TILE · DETROIT CONTROLS · KEWANEE BOILERS · ROSS EXCHANGERS · SUNBEAM AIR CONDITIONERS

Arkansas Fuel Oil Corp. sponsors business School

ANOTHER DIMENSION has been added by the Cities Service Co. subsidiary, the Arkansas Fuel Oil Corp., Tuscaloosa, Ala., to its executive training program through a three-day Institute in Small Business Management held at the University of Alabama, Tuscaloosa, during March 28-30.

Aimed at developing in the company's marketing officials further understanding of the management problems faced by small business customers, the meeting brought together 29 executives who heard major addresses by R. L. Kidd, president of Arkansas Fuel Oil Corp. and J. A. Welch, vice president.

Organized by Welch in cooperation with the Alabama State Department of Education and the University of Alabama, initial planning and research was conducted by Cities Service's Department of Business Research and Education, L. T. White, manager.

Each of the sessions was based on the premise that the best way to build the company's business is to build the prosperity of its customers. Utilizing the conference method, instructors explained to the group how to use the information learned at the school to help solve the management problems of their dealer and distributor customers.

Subjects discussed along with the speakers included: "Local market Analysis and sales Training," by Dr. Donald F. Mulvihill, associate professor of Marketing; "A salesmanship Laboratory," by Dr. William R. Bennett, associate professor of Marketing; "Record Keeping," by Dr. A. J. Penz, professor of Accounting; "Financial statement Analysis," by Dr. Robert H. Van Voorhis, associate professor of Accounting; "Taxes," by Harry H. Haden, professor of Law; and "Your public Relations," by James L. Brakefield, director, Public Relations, Liberty National Life Insurance Co., Birmingham, Ala.

❖

Edward W. Garrison, B. Robert Ozer, Robert B. Redman and *Arley H. Kuhn* were assigned recently as new Winkler district sales managers by the U. S. Machine Div., Stewart-Warner Corp., Lebanon, Ind. Garrison of Morganfield, Ky., will handle western Kentucky, parts of Tennessee and Missouri; Ozer, formerly of Philadelphia, has taken over the Pittsburgh territory; while Redman is assigned the Iowa territory and Kuhn of Appleton, Wisc., is serving northern Wisconsin and upper Michigan.

L. D. Mandell recently was promoted to vice president in charge of sales for Kritzer Radiant Coils, Inc., Chicago, Ill. Formerly general sales manager, Mandell joined Kritzer approximately a year ago.

William T. Goldsmith joined Delta Heating Corp., Trenton, N. J., on March 17 as national sales manager. He formerly was with the Appliance Control Department of the General Electric Co., Schenectady, N. Y., as heating controls supervisor. Goldsmith will make his headquarters in Delta's main office at Trenton.

A Super Cleaned Furnace Gives Oil Heat Satisfaction

Super Model AF

Oil burns better, lasts longer, costs less when the plant is regularly cleaned with a Super. The Super Model AF is light enough to handle easily, but powered and equipped to do a fast, thorough job at low cost. The Super cleans all types of heating units.

Besides profitable cleaning work, the Super provides you with low-cost sales promotion. Access to the fuel burner gives you an opportunity to beat competitors to sales of parts, repairs, replacements and new installations.

Super cleaning can mean year 'round employment for you. Ask your supply dealer. Write for complete specification data.

The Super provides

- **Wide range of utility**
- **Powerful action**
- **Wet and dry pick-up**
- **Specially built electric motor**
- **Labor saving Super Tools**
- **Easy portability**

Super Model AF—The only commercial suction cleaner, which provides in a small, light-weight, low-priced unit the wide range of utility and powerful pick-up of the big heavy-duty Supers.

Super Red Streak—Super Red Streak Model SH provides the big capacity for extreme heavy duty wet and dry, hot and cold furnace and heating plant cleaning. Can be equipped with non-clog Supertex Filter Bag—standard compact size, not oversize—at small extra cost.

THE NATIONAL SUPER SERVICE COMPANY

1951 N. 12th Street Toledo 2, Ohio

Sales and Service in Principal Cities

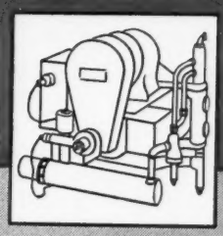
In Canada: Plant Maintenance Equipment Co.
Toronto, Montreal, Vancouver

"Once Over Does It"

SUPER SUCTION®

SINCE 1911

"THE DRAFT HORSE OF POWER SUCTION CLEANERS"



COMMERCIAL & INDUSTRIAL oilburning

SECTION

fueloil & oil heat

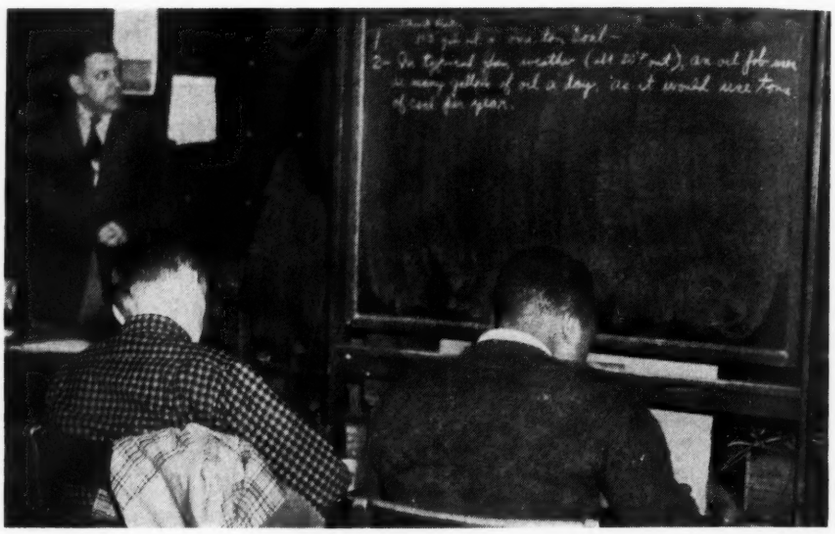
NEW YORK

COMMERCIAL & INDUSTRIAL oilburning

Third Exam for big-burner Servicemen

Here's the Answer to Demands for a commercial-industrial Test that's really tough

by
J. W. Schulz



IF YOU BELIEVE you know more than a little about commercial-industrial oilburner equipment, this is an opportunity to test yourself and rate your knowledge on a numerical basis.

You pass if you obtain a mark of 68% or higher. Don't hope for 100%!

Many letters from readers come in every time one of these servicemen's examinations appears in FUELOIL & OIL HEAT. A letter from you about this examination will be welcomed and given careful study.

Hundreds of FO&OH readers who have written letters about exams are emphatically in favor of licensing servicemen, and not one letter has been received which opposes licensing.

The experts who have been heard from demand tougher and tougher exams. They demand exams so tough that the best men in their companies cannot obtain marks of 100%. They'd like the best men in the industry to obtain marks no higher than 90% or 95%—to make certain that poorly informed commercial-industrial installation men and servicemen will fail the examination.

This has been engineered to be the toughest examination which has appeared in FUELOIL & OIL HEAT *—because many readers have declared they want to take an examination so difficult that it can't be passed by half the men now servicing commercial-industrial burners. An easier exam on domestic oilheating appeared in the April, 1952 issue of* FUELOIL & OIL HEAT. *An easy exam on commercial and industrial burners appeared in the December, 1952 issue, and a more difficult exam on big burners appeared in the March, 1954 issue. Sorry, no copies of the old examinations are now available.*

The exam in this article is of the same pattern of the other servicemen's examinations which appeared in FUELOIL & OIL HEAT. The same pattern was used by the author for examinations he prepared for certain oilheating schools, and for cities which started testing servicemen in connection with licenses for servicing domestic and commercial-industrial oilburners.

To take the test, you simply read each question in turn, study the four possible answers, then mark as correct the answer which to your mind is most suitable for the question.

This method of testing eliminates need for a man to form precise, correct sentences to answer questions correctly and obtain a passing mark.

The words and sentences which form this examination are reasonably simple, but of course you must be able to understand them to pass the exam. You can understand them easily if you are able to understand the manufacturers' instructions which must be understood before complicated oilburning equipment can be installed and serviced properly.

Many men will pass this test without complaining that they cannot understand its words and sentences. On that basis, you cannot justify failure by saying you could not understand the questions and answers.

The correct answers are on p. 59. An employer who sees this before his men can remove the answers from the magazine before his men see them. Take the exam in this way:

1. Study each question and each possible answer listed for it. Put your answers on a separate sheet of paper in this manner: "Ques. No. 1, A; Ques. No. 2, D; Ques. No. 3, A" and so on.

2. You will not always find an answer which is 100% correct to your way of thinking. Mark as correct the listed possible answer which you believe is most nearly correct.

3. Make changes if you desire, but label your final answer clearly.

4. Give only one answer to each question; no credit is given for a question if you provide more than one answer for it.

5. Take up to one hour to answer every question. You receive no credit for any questions unanswered in one hour.

6. Each question answered correctly scores 4%. You pass if you answer cor-

the business end of this burner really means business

See our complete line
Booths Nos. 237-238
EASTERN OIL HEAT SHOW
June 7-10, Hotel Statler in Boston

And the real business end of this U. S. Oil Burner is HTCH . . . the High Temperature Combustion Head . . . one of the many reasons why U. S. dealers' sales are booming. With the highest efficiency ever engineered into a burner . . . precision-manufacture . . . convenient service features . . . plus up to 36% fuel savings provided by HTCH and Vernier-Flame Control . . . Delayed Oil Valve . . . Instantaneous Fuel Cut Off . . . it's no wonder U. S. Oil Burners have been established as overwhelming favorites wherever they are sold There's a complete line of quality-made U. S. Oil Burners—ranging in capacities from 0.50 to 20.00 G.P.H.—for homes, apartments, garages and many other commercial installations. For faster, easier sales and nice profits—install U. S. Oil Burners.

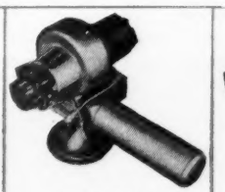
CONTACT YOUR HEATING WHOLESALER OR WRITE US FOR THE FACTS TODAY.

THEY OUTSELL BECAUSE THEY EXCEL

U. S. BURNER DIVISION THE CARLIN COMPANY WETHERSFIELD, CONNECTICUT

8 MODELS
from 0.50 to 20.00 G.P.H. Shown here are five larger capacity models.

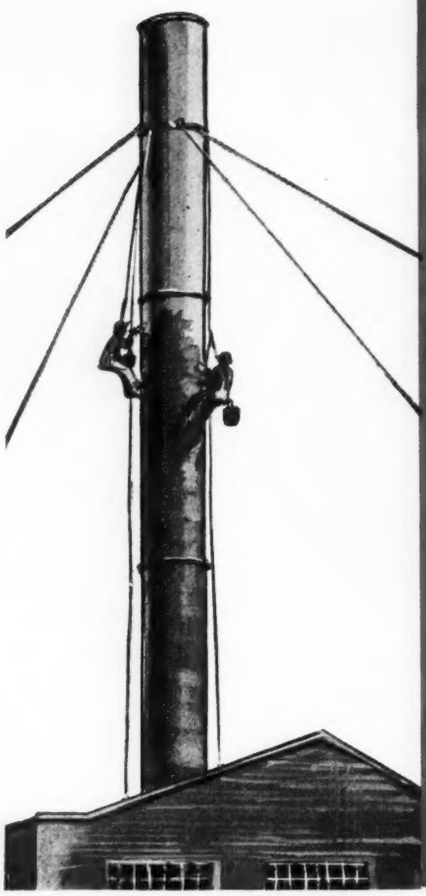
Model 600 S-4
3.00 to 6.00 G.P.H


Model 800 S-4
4.00 to 8.00 G.P.H.

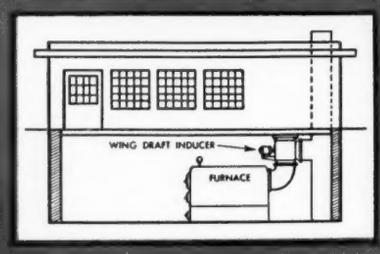
Model 2000 S-5
7.00 to 12.00 G.P.H

Model 1200
6.00 to 12.00 G.P.H.

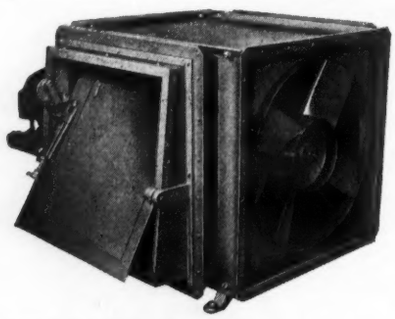
Model 2000
10.00 to 20.00 G.P.H



The next time your stack needs painting or repairing... ...think of WING DRAFT INDUCERS



Natural draft is costly. Steel stacks require periodic painting; still they rust and corrode and need repair and replacement. Brick chimneys need periodic pointing. A Wing Inducer and an inexpensive stub stack to clear the roof, is all you need. And you get positive, adequate draft at all times, regardless of wind or weather. *Write today for bulletin. Use the coupon.*



WING DRAFT INDUCER SHOWING AXIAL FLOW FAN AND BAROMETRIC DAMPER (Optional)

L. J. Wing Mfg. Co. **66 Vreeland Mills Road, Linden, N.J.**

Factories: Linden, N. J. & Montreal, Canada

L. J. Wing Mfg. Co., Linden, N. J. FOOH-5
Please send me bulletin on WING DRAFT INDUCERS.
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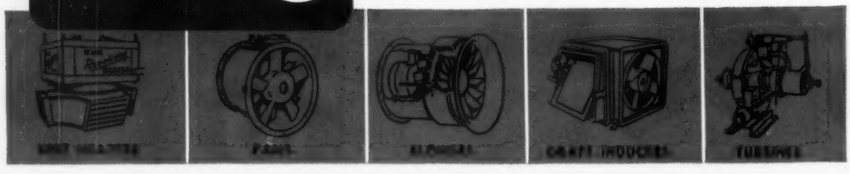


rectly 17 or more questions, for as has been stated a mark of 68% or higher passes you.

Commercial-Industrial Oilburner Examination

Question 1—Which of the following sets of laws is correct for a centrifugal blower in an oilburner?

A. Air volume varies as blower speed; output air pressure varies as square of blower speed; power needed varies as cube of blower speed.

B. If you double the speed of a given blower serving a given air-flow system, you double the air volume the blower provides, and you double the horsepower need to drive the blower.

Don't forget this big point: When you cannot find a possible answer that is 100% correct to your way of thinking, you select the listed possible answer which you find to be most nearly correct. You can speed your taking the exam—and gain some assurance at the same time—by looking first, as you handle each question, for the possible answers which you find to be utterly absurd.

C. Horsepower required to drive a blower is not related to speed of the blower shaft; only a shift to a blower of different width or diameter can affect horsepower requirements.

D. A centrifugal blower adjusts automatically for changes in the temperature of the air it handles; a fan handles the same number of pounds of air per minute whether the air entering the blower is, say, 60°F. or 200°F.

Question 2—You know the new boiler you will install in a factory needs a smoke outlet draft of at least .25"—you plan on 550°F. stack temperature and 10% CO_2. How much stack height will you tell the owner is needed, measuring from smokepipe opening in the masonry stack to the top of the stack, anticipating ample flue area?

A. The stack or chimney should be 150 to 180 ft. high on above basis.

B. Stack should be 200 ft. high or somewhat higher.

C. 50 to 60 ft. stack is suitable.

D. 20 to 25 ft. stack is suitable.

COMMERCIAL & INDUSTRIAL oilburning

Question 3—By phone, a friend tells you he bought a horizontal rotary cup oilburner which is powered by a three horsepower motor which provides direct-drive for the burner's atomizing cup and primary-air blower, and which drives its integral fueloil pump through use of a worm gear. In answer to his question, you tell your friend this burner might be good for a maximum firing rate of:

A. Ten gallons-per-hour or gph.

B. 15 to 25 gph.

C. 25 to 35 gph.

D. 60 to 80 gph.

Question 4—Superintendent of a school complains he has to use a can to catch the No. 6 fueloil that drips from the atomizing cup of his horizontal rotary burner when burner is idle. What's wrong with the burner?

A. Anti-siphon valve in suction line fails to close tight when burner is idle; repair or replace the leaking anti-siphon valve.

B. Atomizing cup is loose and leaky; needs tightening to end the leaking.

C. Solenoid valve in cup-line of burner needs repair or replacement.

D. Lubricating oil is escaping from gear-case of burner because packing at main-shaft bearings needs attention.

Question 5—A greenhouse owner informs you that he has been using No. 2 oil, costing him about 13½¢ per gallon, for his three side-by-side pressure atomizing gun-type burners. Each fires a cast-iron heating boiler at the rate of 12 gph. Now a certain fueloil supplier offers him fueloil described as suitable for such large pressure burners. Viscosity is guaranteed to be no higher than 75 seconds, Saybolt Universal at 100°F. He can buy this so-called special fueloil at 9¢ per gallon. On the basis of this low price and this viscosity, he asks you, should he switch to this special fueloil? Which of these answers will you give him?

A. The idea of using such fueloil in such burners is absurd, for the fueloil has the viscosity of the heaviest No. 6 fueloil, can be used only in industrial burners which use preheated fueloil.

B. Convert the three pressure burners to low-pressure burners at a cost of about $15 per burner, and they can use the special fueloil nicely.

C. In addition to converting the pressure burners to low-pressure burners at a cost of about $15 each, install equipment to heat the special fueloil to 180°F. before it reaches the burners. Then they can use it.

D. Try this special fueloil in your burners, for coming from a reputable fueloil supplier the suggestion to use this oil makes sense. Years ago, many large pressure burners, together with low-pressure gun burners of all sizes, were U.L. listed for fueloil of maximum viscosity 70 seconds, Saybolt Universal at 100°F. You should of course have the burners adjusted differently when you switch to this heavier oil.

Question 6—The overload protector serving this polyphase oilburner motor often trips open, stopping the motor. In addition, fuses serving the oilburner equipment often blow. Which of the following items can cause these troubles?

A. Short-circuit in the low-voltage control circuit of the oilburner safety control panel.

B. Burner motor draws excessive current when it starts.

C. Fueloil heater on a burner using No. 6 fueloil draws excessive current or is defective electrically in some other way.

D. Polyphase motor should be replaced with a two-wire brush-start motor (repulsion-induction) because of excellent starting ability of such a motor.

Question 7—You install a conventional swinging-gate or barometric draft regulator on a smokepipe to:

A. Provide means for regulating the over-fire draft and avoid excessive over-fire draft disadvantages.

B. Reduce the smokepipe temperature and avoid overheating of a stack control.

. . . . . .

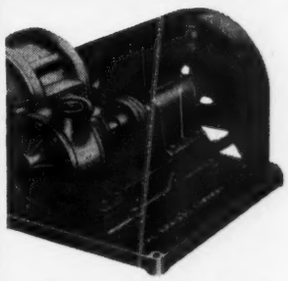
Book larnin' is needed to handle some of these questions, for example questions 1 and 19. Good judgment or experience helps with other questions, for examples questions 2, 3, 5, and 11.

SINCE 1926—in the application, design and manufacture of pumps—separators—hydraulic accessories.

KRAISSL

PUMPS and SEPARATORS for industrial oil burner service

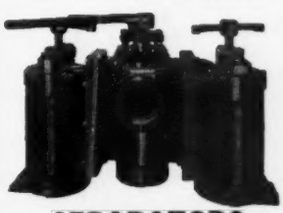
• direct burner service • booster service on pump type burners • simplex and duplex • standard and high pressure •



Class 60 Pumps

Of the internal gear type, the "60" is machined to close tolerances—for maximum vacuum characteristics with heavy and cold oil. The outstanding design advantage is the ball bearing, V-belt reduction drive—connected to pump by means of loose coupling, which eliminates side deflection from pump shaft. Suction and discharge sizes from ½" to 2". Capacities, 75 to 2100 GPH; pressures to 100 psi.

Write for Bulletin A-1193



SEPARATORS

Adequate strainers for both suction and discharge service are essential on every heavy oil installation. Available with Underwriters Labels from ¼" to 4"; larger sizes up to 6".

Advantages of our design are: ease of cleaning; interchangeability of separator baskets — from coarse straining to fine filtration; elimination of replacement filter costs—cleaning of removable separator baskets restores original efficiency.

Ask for Bulletin A-1430

KRAISSL KRAISSL CO.

295 Williams Ave.
Hackensack, N. J.

C. Prolong the life of the chimney and smokepipe by keeping them cool.

D. Obtain proper, higher draft from a poorly designed chimney.

Question 8—A heat-sensitive bimetal element, related to safety controls and located in a smokepipe, frequently becomes covered with soot with the result that the burner stops "on safety" when it should not. Select the step which will end this trouble:

A. If the stack temperature is below 700°F., increase it by any method practical for the particular installation —because many stack controls work poorly on jobs having stack temperatures below 700°F.

B. Adjust the safety control panel for a 300-second "try for ignition" period so that it does not lock out on safety when the stack control works slowly.

C. Clean the smokepipe element which becomes covered with soot, and improve the flame so that it produces less smoke and soot; better use a CO_2 tester and a smoke-checking instrument to determine how successful you are in your efforts.

D. If the troublesome stack control is located between the smokepipe draft regulator (swing-gate or barometric type) and the smoke outlet of the furnace or boiler, move the stack control. Install it between the draft regulator and the chimney, where clean air entering the smokepipe through the draft regulator will blow soot off it.

Some dealers and manufacturers are using these examinations to encourage their technical men to study —to fill in the holes in their technical knowledge. Putting this examination to use in that way probably is far more constructive than using it to prove some men cannot obtain good marks taking the test.

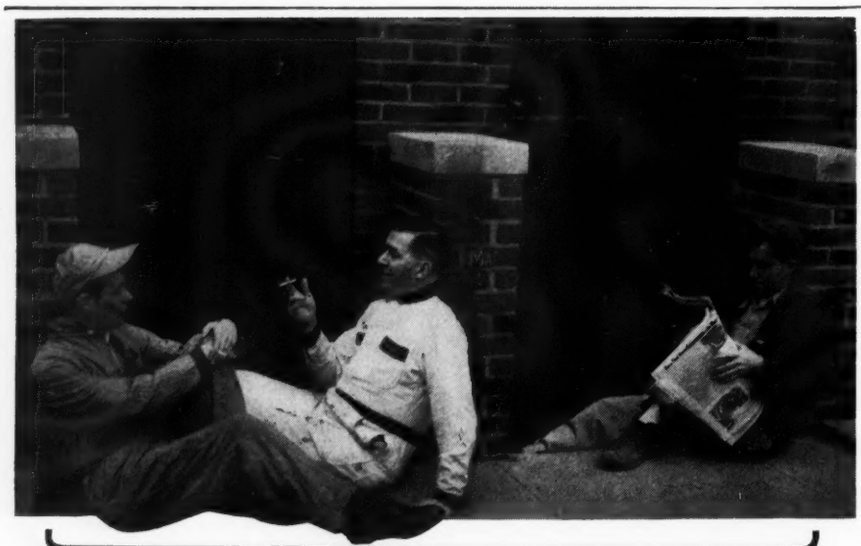
Question 9—Fired by No. 6 fueloil, this steam boiler fails to produce enough steam to raise even one pound of pressure in the heating system—even though the burner runs six hours continuously. Some of the radiators therefore fail to heat. Combustion test readings: 11½% CO_2 #3 smoke Shell-Bacharach scale, 975°F. stack temperature, .06" over-fire draft and .18" smoke-outlet draft. Which of these items causes the trouble?

A. The gph firing rate simply is too low for the load; increasing the fire size sufficiently, perhaps by 20% to even 50%, will result in highly efficient operation together with the production of ample steam for the radiation load.

B. Either poor atomization (could be caused by failure to heat the No. 6 fueloil sufficiently) or poor firebox design are responsible for the low CO_2 reading of 11½% and the resultant low efficiency at which the boiler operates. Remedy the job defects which cause low CO_2, obtain a CO_2 reading of at least 32%, and the boiler will produce ample steam for its load.

C. The draft-drop through the boiler of .12" is excessive, therefore higher smokepipe draft is needed.

D. The only thing wrong with the job lies in the boiler's being too small for the radiation load connected to it. To carry the radiation load easily and



these men are costing you money!

If these are your men, wasting time at the job waiting for a shipment of firebrick . . . these men *are* costing you money!

Every Heavy Oil Burner Contractor knows that profits depend upon having materials on the job simultaneously with the work crew. At today's high cost of labor, man-hours charged to any one job must be kept to a minimum.

To insure delivery of refractories when you need them, where you need them, call on the only large manufacturer of refractories equipped to service the Heavy Oil Burner trade with quality products from its own local stocks, by its own employees, in its own trucks. When your entire refractory requirements are met by one source, minimum time elapses between order and delivery, and *work deadlines are met.*

Make us prove this statement! Call your nearest GREFCO warehouse the next time you need refractories.

GENERAL REFRACTORIES COMPANY

In New York City: 34-40 Laurel Hill Blvd. (Maspeth) RA-9-5353-4-5
In Elizabeth, N. J.: 1180 East Broad St. EL-2-5324
In Philadelphia: 2950 East Tioga St. GA-6-6432
Also in Chicago, Los Angeles, Detroit, and Troy, N. Y.

Similar services available from many GREFCO dealers located in the U. S. and Canada.

GREFCO

Let us send you our latest pocket-size refractories catalog, just off the press. More than 100 pages of valuable information. Clip and forward the coupon below. No obligation, of course.

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NAME .....

FIRM .....

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TITLE .....

at high efficiency, install a new boiler of proper size and design.

Question 10—A horizontal rotary cup conversion burner was installed to fire a coal-designed, steel, firetube 175 hp boiler which provides process steam at 60 lbs. pressure. The dealer who installed the burner boasts of its high operating efficiency, citing these combustion test results: 12½% CO_2, stack temperature only 140°F. above temperature of steam in boiler, #4 smoke by Shell-Bacharach scale, .05" smokepipe draft and .03" over-fire draft. Those readings are obtained with smokepipe dampers set for maximum draft, and with the primary-air damper of the burner wide open and the secondary-air damper (admitting air to passages under the firebox floor) wide open. The owner wants to feed more oil into the firebox, saying unless he does this he can't carry his steam load. His complaint is, that though the burner, firebox, etc. were installed in strict accordance with the burner manufacturer's instructions, his efforts to fire hard enough to carry the load cause vast amounts of smoke and soot to pour from the top of his chimney. Which of the following is the trouble?

A. Higher smoke outlet draft is needed and can be obtained either by providing the boiler with a chimney suitable for it or by installing a draft inducer, for this 175 hp boiler needs greater draft than the .05" on it, which is suitable for only a little house-heating boiler.

B. The combustion is extremely inefficient, as the instrument readings prove. There is need to improve the combustion by such steps as eliminat-

The best servicemen know how to plan new installations. After all, a man cannot find installation flaws and shortcomings which are responsible for chronic trouble, if he cannot plan properly the oil piping, oil heating, firebox, draft control, electrical control set-up and wiring, and all other details of the most complicated jobs he must service. A serviceman must know far more about controls and electric wiring, for example, than a man who can install the wiring after he has been given the proper wiring diagram.

SUPERIOR
combination GAS/OIL burners

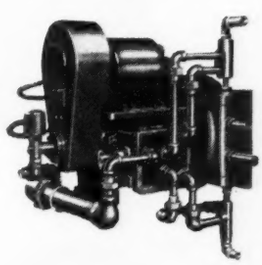
With the growing distribution of natural gas, has come an increasing demand for combination gas/oil burners.

Dealers who handle Superior combination gas/oil burners are in an ideal position to meet this demand.

The Superior Gas Burner consists of a circular row of stainless steel nozzles set in a cast-iron gas manifold ring. The angle of the nozzles shapes the fire to the firebox. Combined with the Superior Oil Burner, the same fan supplies primary air for firing either gas or oil. For safety, a *constant* gas pilot guards every gas-firing cycle.

Whatever the fuel . . . light or heavy oil, natural, manufactured, propane or butane gas . . . Superior Combination Burners will burn it Safely, Efficiently, Economically, and Automatically. Change-over from one fuel to the other is made in a matter of minutes without interruption of steam supply, and without disturbing or making any change in the equipment.

Valuable, unassigned territories are still available. If you have the experience and the organization to successfully handle sales and installation, write for complete details.



Shown here is the other side of the SUPERIOR Rotary Burner with its 4-hole hinge, V-belt drive, dual pumps and reservoir.

for performance you can BANK on SUPERIOR ROTARY BURNERS

SUPERIOR COMBUSTION INDUSTRIES INC.
TIMES TOWER, TIMES SQUARE, NEW YORK 36, N.Y.

now . . . from

ONE SOURCE with UNDIVIDED RESPONSIBILITY

a complete line of controls
and valves
for commercial and industrial
burners . . . automatically,
semiautomatically, or
manually ignited

fireye®

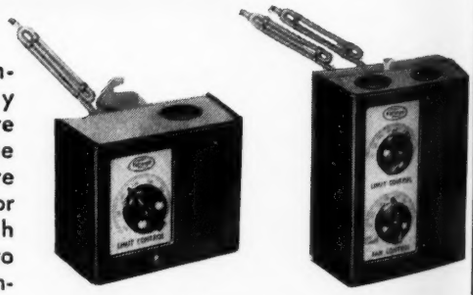
SAFEGUARDS and PRIMARY CONTROLS

The FP-2 and FJ-2 systems provide complete flame-failure protection and programming for automatically ignited burners. Shut off fuel in 2 to 4 seconds after flame failure. Limit trial for ignition. Purge combustion chamber before and after firing.

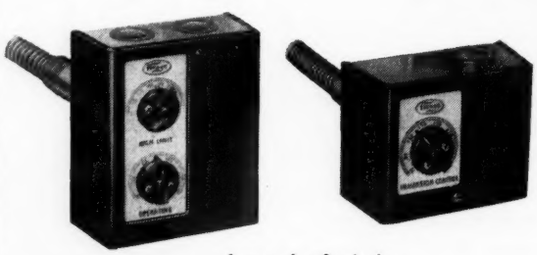
System FP-2 for industrial burners

OPERATING CONTROLS

Fireye automatic controls, operated by changes in temperature or pressure, are of the highest quality. They are available individually or in combination with other Fireye controls to make a complete control system.

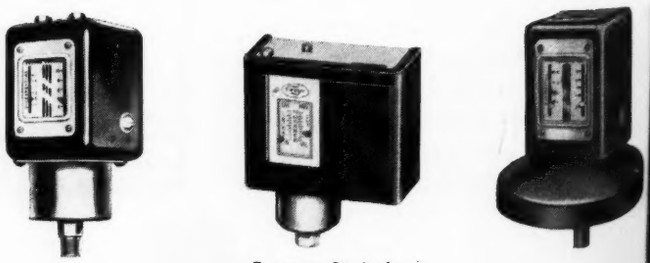


Air Temperature Controls

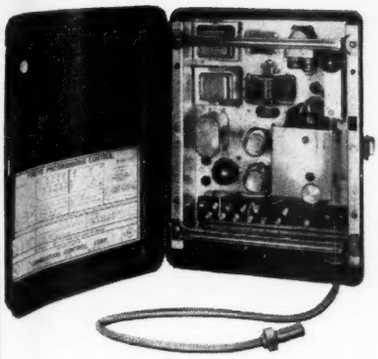


Immersion Controls

Thermostat

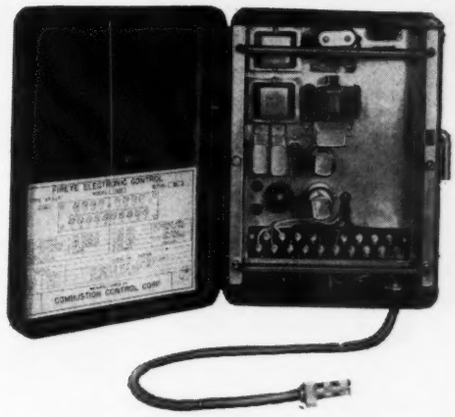


Pressure Controls



System FJ-2 for commercial burners

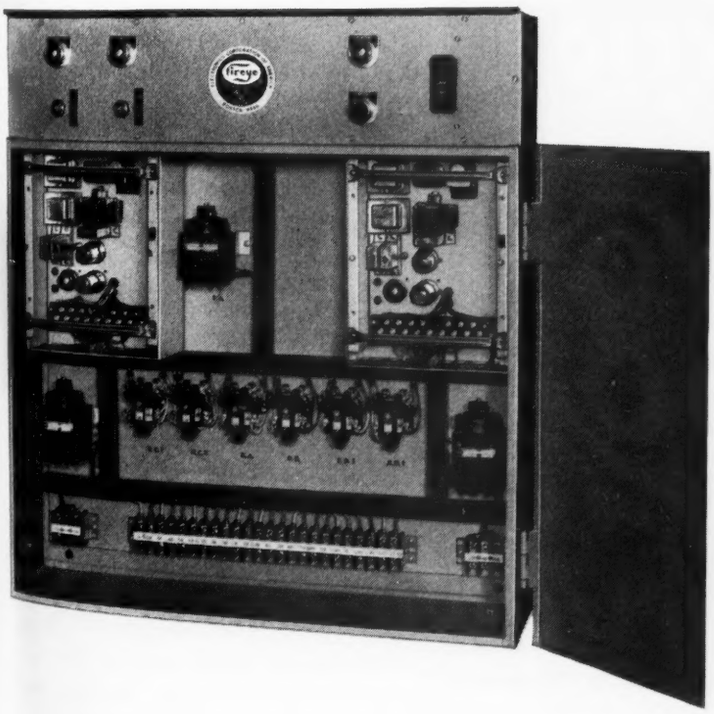
System FP-3 for flame-failure indication and alarm



System FP-4 for semiautomatically and manually ignited burners

NEW SAFETY INTERLOCK SYSTEM

The first fully integrated combustion safeguard system for multiple burner boilers . . . insures safe light-off and firing. Includes all external valves, switches and alarms in addition to prewired cabinet assembly.



SMOKE INDICATORS

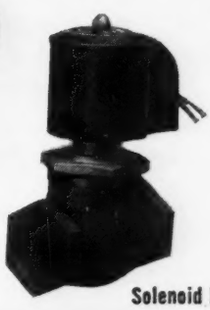
Provides low-cost, easy-to-install smoke indication with assured accurate readings. Meets *all* smoke ordinances.

System FE-3

VALVES

Leakproof closing action of these safety shutoff valves makes them ideal for automatically shutting off fuel flow to a burner in event of flame failure, fan or pump failure, power failure, etc.

Manual Reset Valves



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☐ Operating Controls ☐ Valves

☐ New Safety Interlock ☐ Smoke Indicators

☐ Primary Controls and Safeguards

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ing firebox shortcomings, increasing the temperature of the No. 5 or 6 oil given the atomizing cup, improving atomization, etc. If the efficiency at which the oil is burned is increased greatly, a much greater load can be carried with no increase in the gph firing rate of the oilburner.

C. The boiler is greatly undersize for the load connected to it, the combustion tests prove. The owner needs a larger boiler fired at a higher gph rate.

D. The chimney is putting excessive draft on the boiler, and is "pulling the heat out of it." The greatly excessive over-fire draft should be reduced and controlled; install a modern system of over-fire draft control. That will end the trouble and permit the boiler to carry double the load it now can carry.

Question 11—An auxiliary pump-set brings in No. 6 fueloil from a 20,000 gallon outside, buried tank, and gives six horizontal rotary cup burners fueloil at five to ten pounds pressure. A vacuum gage at the inlet of the pump-set reports a usual vacuum of 5" to 7" (the vacuum the pump must develop to obtain oil from the outside tank); the same gage shows that with a suction-line valve closed, the gear-type pump develops a maximum vacuum of 26½". Accuracy of the vacuum gage has been verified. An oil-line thermometer shows that the oil is coming from the outside tank to the pump-set at 110°F. to 125°F. Why does the pump-set suddenly provide less fueloil for the six burners than it did in the past?

A. Most probably the suction line has suddenly developed bad air leaks; check for a mixture of air and oil coming from the pump-set. Locate and seal air leaks.

B. The excessive vacuum of 5" to 7", with pump-set working normally, is responsible for the difficulty. Increase the suction-line oil temperature greatly, to about 180°F., and the suction-line vacuum will drop to zero. Then the pump-set will bring in twice as much oil as it now does.

Oilburner course instructors: Proof that you are doing a thoroughly good job can come in the form of high marks from your best students who take this examination.

C. The maximum vacuum-test reading of only 26½" proves the auxiliary pump is worn out. Install a new pump which can develop a vacuum at least as high as 42". That will end the pumping difficulty.

D. It's wrong to use a gear-type pump. Replace the old pump with a centrifugal pump to end the trouble.

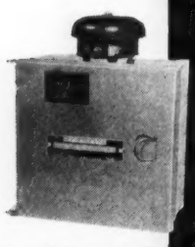
Question 12—This modern 650 hp boiler can be fired at up to 500 gph by its battery of three industrial burners which use No. 6 fueloil. An electronic device monitors the oil flame; the monitoring device instantly gives notice to its safety control panel, if the oil flame fails. How soon after the flame-fail signal reaches the safety control panel, should this panel cut off the flow of oil to the burners?

A. within four seconds.

B. Within 60 seconds.

Thousands of Satisfied Customers have *Yula*

DEPENDABLE 2-WAY FUEL OIL PRE-HEATER PROTECTION



The *Yula-trol* is connected with a "probe" in the shell of the fuel oil pre-heater. Should the water be displaced from contact with the "probe" by oil or air, the Yula-trol instantly shuts off the heating unit and sounds an alarm.

•

The new, improved *Yula* "YT" "U" Tube Heater precludes possibilities of Air Pockets. It is designed to pre-heat No. 6 (Bunker C) fuel oil efficiently and economically by use of hot water as the heating medium.

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The NEW, Improved . . . YULA-TROL FUEL OIL DETECTOR and . . . YULA "YT" "U" TUBE FUEL OIL HEATER

1 . . Simultaneously shuts off the heating unit, sounds an alarm and flashes on a red light in case an oil leak occurs in the pre-heater.

2 . . Acts as a Low Water Cut-Off.

RESULT: Positive heating system protection at low cost.

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Yula Suction Oil Heaters.

Yula Bayonet Type "B" Oil Heaters.

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166 WEST 225th STREET, NEW YORK 63, N. Y.

C. Within 90 seconds.
D. Within 120 seconds.

Question 13—You have to provide the correct size secondary-air passages under the firebox floor of a conversion job which will be fired by a horizontal rotary cup burner. For a maximum firing rate of 45 gph, what should be the cross-sectional area of the secondary air ports, assuming the usual in over-fire draft?

A. 700 to 900 square inches
B. 400 to 600 square inches
C. 200 to 250 square inches
D. 50 to 75 square inches

Question 14—To solve problems related to forced draft, induced draft, and providing fresh air for boiler rooms, you can figure that to burn one gallon of Nos. 5 or 6 fueloils you need this amount of air on the basis of 70°F. air temperature and atmospheric pressure:

Knowledge gained studying technical subjects in high school and college does help answer some of the tough questions. Education is a help to a burner expert.

A. 150 to 200 cubic feet
B. 500 to 700 cubic feet
C. 1,000 to 1,200 cubic feet
D. 1,600 to 1,900 cubic feet

Question 15—In the power plant used to heat a group of New York apartment houses, 9,000 tons of coal are used yearly for heating and water heating. Contemplating switching to No. 6 oil, the owner asks you about how many gallons of oil he will use for heating during 15 days of usual January weather. Which of these answers will you give him to help him decide on a proper size oil storage tank? In 15 days of January weather, he will use:

A. About 5,000 to 8,000 gals.
B. About 15,000 to 20,000 gals.
C. About 40,000 to 60,000 gals.
D. About 120,00 to 150,000 gals.

Question 16—This horizontal return tubular (HRT) boiler rated at 150 hp carries a light load and is to be fired at only 25 gph—by No. 5 fueloil.

For figuring roughly the refractory material needed to build the firebox for this conversion job, you can plan on

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As a supplier of burner equipment for commercial and industrial boilers, it's your vital concern that your source of supply be dependable as to quality specifications, range of types and sizes and prompt, efficient delivery and service.

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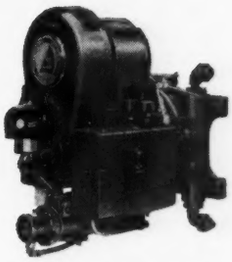
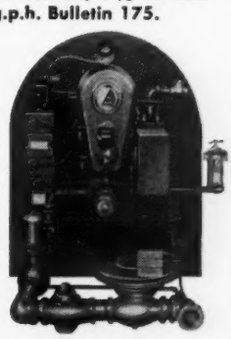
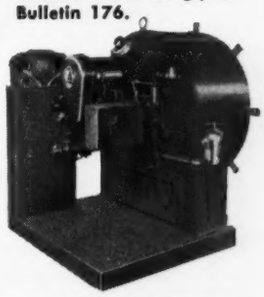


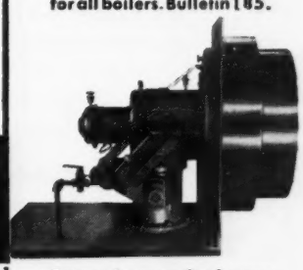
Horizontal rotary, heavy oil burners, 7½ to 175 g.p.h. Bulletin 175.



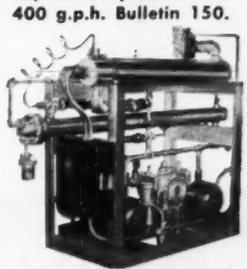
Combination oil and gas burners 15 to 90 g.p.h. Bulletin 176.



"THERMOPAK" automatic oil or gas combustion system, completely packaged for all boilers. Bulletin 185.



Rotary burners for heavy oil, tar or pitch—50 to 400 g.p.h. Bulletin 150.



"Packaged" pump and heater set; for oil delivery of 110 to 1200 g.p.h. Bulletin 1630B.

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☐ Bull. 175 ☐ Bull. 176
☐ Bull. 185 ☐ Bull. 150
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this distance from the atomizing cup to the back wall of the firebox:

A. 105" to 120"
B. 160" to 190"
C. 45" to 65"
D. 30" to 40"

Question 17—Four side-by-side boilers (each rated for 300 hp) in a power plant produce a total of 1,100 horsepower as their average output for the eight-hour shift making up the heaviest load. Their efficiency is estimated at 74%; No. 6 oil is used. How many gallons of fueloil should be used in these boilers during this eight-hour shift during which the total boiler output averages 1,100 hp?

A. 400 to 600 gallons
B. 1,000 to 1,200 gallons
C. 2,400 to 2,800 gallons
D. 5,500 to 6,000 gallons

Question 18—This process steam load requires 7,000 lbs. of steam per hour, 212°F. steam basis. Industrial type boiler to be installed will work at 150% of rated output to carry the maximum load (7,000 lbs. of steam per hour, 212°F. basis). What should be the horsepower rating of the boiler?

A. 10 to 20 hp
B. 30 to 40 hp
C. 60 to 80 hp
D. 125 to 150 hp

Question 19—Use this formula to determine the area of any triangle:

A. Area of any triangle is one-third the area of the smallest rectangle in which the triangle can be ensconced.

B. Area of any triangle is half the product of its base times its altitude.

C. Area of triangle equals the square root of the product of multiplying together its three sides.

D. Area of triangle is one and a half times the area of a circle inscribed in the triangle.

Question 20—One atmosphere is the equivalent of:

A. 2.540 centimeter
B. 144 square inches
C. 30 ounces mercury vacuum
D. 33.9 foot water head-pressure, 62°F.

Question 21 — One mechanical horsepower is the equivalent of:

A. 330,000 ft-lb per minute
B. 550 ft-lb per second
C. 33,475 Btu per hour
D. 44,267 ft-lb per minute

Question 22 — One boiler horsepower is the equivalent of:

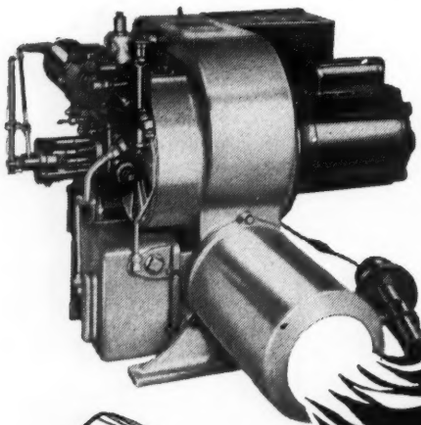
A. 33,475 Btu per hour
B. 240 sq. ft. of steam radiation
C. 15 sq. ft. of boiler heating area
D. 3,412 Btu per hour

Question 23—Which of the following statements concerning combustion is correct with respect to burning fuel-oil and the other fuels mentioned?

A. All of the heat in a gallon of No. 6 fueloil, amounting to 14,000 Btu per gallon, is released as the result of complete combustion under perfect conditions.

B. Operation of a burner using no excess air is desirable both theoretically and practically as it is necessary for highest attainable efficiency, but such operation is a practical impossibility on actual installations before efforts to arrive at it produce burnables in the products of combustion.

C. The highest CO_2 reading attainable on best oilburning installations is



SELL HEV-E-OIL burners and make BIG profits

saves customers 3 to 6¢ on each gallon, heating with No. 4 or No. 5 heavy oils

• BIG fuel users perk up and listen when you promise more economical heat. That's why alert dealers selling Hev-E-Oil Burners are cashing in on the non-competitive heavy-oil burner business in their locality.

So, for Big profits sell Hev-E-Oil Burners — designed especially for low-cost *commercial* fuels — instead of expensive light oils.

You sell a quality product made by America's leading builder of packaged boilers and oil-fired equipment.

Look at these profit-talking points:

1. CUTS FUEL BILLS 30% — customers save up to 6¢ per gallon using heavy oils instead of light oils. Even gain 7% more heat per gallon. Less cost per gallon . . . less fuel used!

2. FAST INSTALLATION — installs as easily as domestic burner. Fits all standard heating boilers. You make up to $500 more than you would on a light-oil burner installation. Replacement parts always available.

3. ATTRACTS BIG FUEL USERS — savings add up, especially if more than 6000 gallons of light oil or 45 tons of coal are used yearly. Satisfaction keeps users "sold" too — year after year!

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considered as in the realm of 11½% to 12½%, according to many combustion experts—the same maximum CO_2 is attainable similarly on installations using other fuels such as coke, bituminous coal, anthracite, natural gas, and manufactured gas.

D. All grades of fueloil are mineral oils which consist mainly of molecules made up of hydrogen, oxygen, and carbon in chemical combinations.

Sizing a Boiler

Question 24—You are to provide a new oilfired boiler suitable for operation under city water pressure and of sufficient capacity to heat this hotel's 3,000 gallon well-insulated hot-water storage tank in three hours. Figuring the overall efficiency of the entire set-up as 70%, which of these boiler sizes would you select on the basis of firing the boiler to produce its rated output?

A. Five to 7½ hp boiler
B. 10 to 15 hp boiler
C. 25 to 30 hp boiler
D. 50 to 60 hp boiler

Question 25—Indicate which one of the following statements is correct with regard to problems encountered in the field of chemical treatment of make-up water and boiler water:

A. Rain water obtained from roofs of factory buildings is excellent for use as make-up water given to large low-pressure steam boilers, because its pH value of as low as 4 to 6 renders it non-corrosive.

B. Maintaining the pH above 11 is good practice in industrial boilers which receive make-up water that has been treated carefully beforehand to eliminate hardness. But maintaining extraordinarily high pH, 11 or even higher, is not good for the water in apartment-house boilers—if the water contains solids which may be precipitated by the maintenance of the high pH, with the result that scale is formed in the boilers.

C. Calcium and magnesia carbonates produce hard scale which boiler water cannot penetrate.

D. To improve hard or soft city water and make it more suitable for either low-pressure or high-pressure steam boilers, aerate it to charge it with as much oxygen and carbon dioxide as it can dissolve.

Tabloid Newspaper announces Cleaver-Brooks CB Boilers

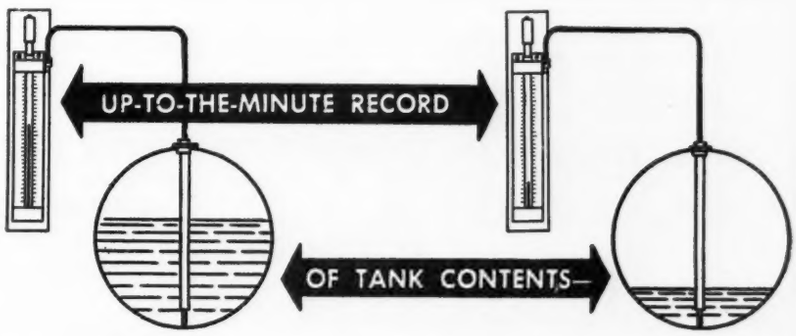
CLEAVER-BROOKS CO., Milwaukee, Wisc., has published a tabloid-sized newspaper to announce their new line of CB, self-contained boilers. The publication combines information about the boilers with comments by company officials.

It is illustrated by pictures of installations, demonstrations, plant views, and cut-away views of the equipment.

Shipment Increase reported at Hays sales Conference

DURING A RECENT sales conference held by the Hays Corp., Michigan City, Indiana, at the company's home office on March 15-16, Phil Sprague, Jr., executive vice president told the group that Hays shipments in 1954 had reached a new all-time high.

In recognition of top sales performance, Shirl Rudolph, vice president, presented first place awards to the Boiler Equipment Service Co., Atlanta.



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These gauges can be installed on tanks above or below the ground and up to ¼ of a mile away. The tank assembly unit can be installed even when there is liquid in the tank. The single copper tube line from the tank is connected to the gauge by one simple compression connection. No setting up or adjusting is required on the job.

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8

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Comm.-ind. Sections meet during Institute Convention

COMMERCIAL & INDUSTRIAL oilburning

THE COMMERCIAL-INDUSTRIAL SECTIONS of the Oil Heat Institute of America, Inc., conducted a full program during the annual convention of the Institute, April 19 to 21 in Chicago. It began with a joint meeting of the Manufacturer and Accessory Divisions on April 19, followed by separate sessions for each and was climaxed with an all-day conference on April 21 for architects, engineers and dealers interested in heavy oilburning.

J. Verne Resek, chairman, conducted the first day's meeting of manufacturers, during which copies of a recruiting folder were distributed. "What every M.E.-Ch.E. Graduate should know," the title of the folder, points out to engineering graduates the advantages of a career in the commercial-industrial oilburning field, laying particular emphasis on security to be found in this established industry. Quantities of the brochure have been mailed to 259 engineering schools throughout the country.

A motion was adopted during this meeting, recommending that the OHI directors select a committee from among the Commercial-Industrial group to meet with the Air Pollution Control Association and oppose a unified national air pollution code. The resolution recognizes that air pollution is a serious problem in many cities, but it is felt also that unless there is an active committee working to prevent unfriendly legislation too much air pollution might be blamed on industrial oilburners and ordinances, in general, could become too restrictive.

Also adopted was a resolution favoring passage of H.R. 1, with no amendments. The bill would extend for three years a 1953 act permitting imports of residual oils without restrictions. Strong opposition to the bill is being raised by coal interests, who advocate a quota of only 10% of residual oil be imported. Present imports are about 25% of consumption.

The conviction was expressed that restriction of residual oil imports inevitably would cause a significant price increase. It was suggested that manufacturers, dealers and their employees be urged to recommend strongly to Congress that the bill be passed. It was noted that H.R. 1 is particularly important to the industry in view of the decreasing percentage of residual now obtained from crude oil. A few years ago residual oils constituted about 21% of the petroleum barrel; present proportion has dropped to about 14%.

On Wednesday afternoon, April 20, C. T. Burg, Iron Fireman, conducted a session devoted to a discussion of manufacturer management prob-

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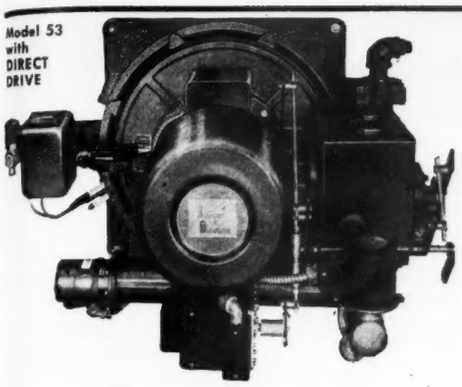

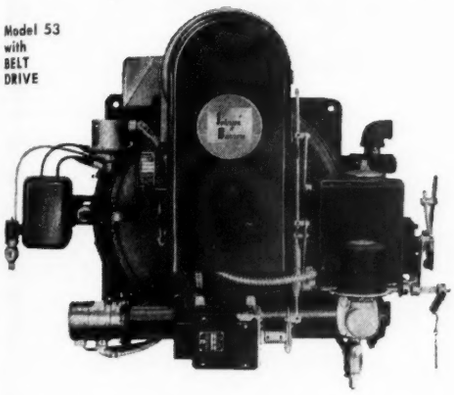

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This revolutionary new Johnson "Fifty Three" will give you smooth, sure, automatic "Starts" even when the oil in storage tank and lines is cold and hard to pump. It is built with a positive-displacement Metering Pump . . . a 3-Way Magnetic Oil Valve . . . and a high-efficiency Suction Pump that enable the "Fifty Three" to maintain a fixed air-fuel-ratio regardless of variations in oil temperature and viscosity. It will start up and operate automatically on colder oils than any other burner on the market. Never before has any burner so successfully solved the "Cold Starts" problem.

It is available with either Direct Drive or Belt Drive in 8 sizes from 25 HP to 500 HP . . . with all the fine engineering that have made Johnson Burners famous for economy and high efficiency for over half a century. It's built with all working parts readily accessible for easy servicing, inspection or regulating. If you haven't seen it yet, make it a point to investigate this revolutionary new burner. May we send you a copy of our beautiful new Model Fifty Three brochure?

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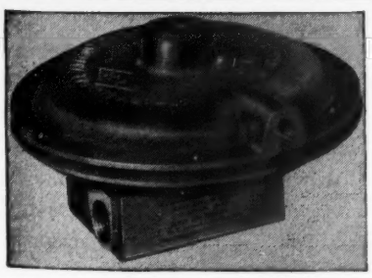
SAFETY SWITCH
THAT SHUTS OFF FUEL IF BLOWER FAILS



Protection for Oil Burners
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WHAT IT DOES

The Dewey Safety Air-Flow Switch protects against opening of fuel valve until fan is up to speed.

Insures purging of furnace before fuel valve opens. Closes fuel valve if fan slows up or stops. Flashes danger signal if fan or fuel stops. Safeguards against danger from gas fuel failure when used with safety shut-off valve.

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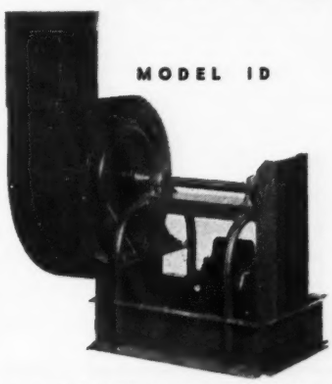
HERE'S *the* FAN



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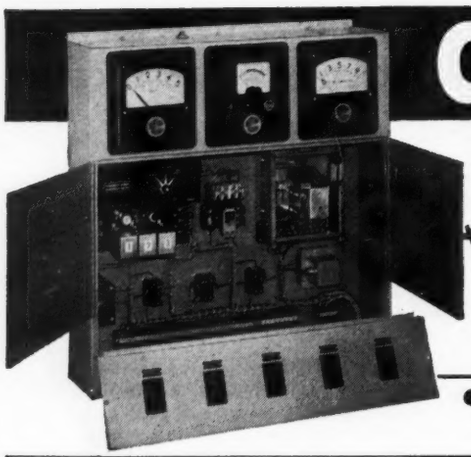

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Complete CFE factory-assembled Panel Board Cabinets save time, cost, worry and service calls on gas, oil, combination fuel or stoker installations. CFE control cabinets group all primary burner controls, flame safe guards, gages, fuses, circuit breakers, etc., in one neat compact standard cabinet 34" square and only 8" deep—available in special sizes to fill your needs.

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In Canada, write to: Ontor Laboratories Inc., 111 Tycos Drive, Toronto

COMMERCIAL & INDUSTRIAL oilburning

lems. And, on April 21 Resek opened an all-day program by outlining its purpose. He told something of the Division's activities and then introduced Charles Pesterfield, Technical Secretary and also a Professor of Engineering at Michigan State University, devoting about one-third of his time to OHI affairs.

He told of project 296, proposed revision of standards for oilburners, remarking that 800 copies of a preliminary draft had been mailed to industry men and asked that engineers send in their suggestions or opinions.

He told also of the forthcoming commercial-industrial oilburning conference, to be held at Michigan State, May 23 to 25. The conference is for men now working in the industry and Pesterfield hopes to have another conference of the same type in the East and Far West.

He briefly described the Michigan conference, pointing out that its three day program provides for 12 technical presentations on various phases of commercial-industrial oilburning, ranging from chemistry of fueloil, to combustion chamber design, pumping and preheating fueloil, conversion burner applications, controls and a panel, composed of the speakers, who will discuss heavy oil and equipment.

Pesterfield pointed out that applications for attendance should be sent to the OHI Commercial-Industrial Oilburning and Equipment Conference, Continuing Education Service, Michigan State University, East Lansing, Mich. Or a brochure, with application form attached, can be secured from Oil Heat Institute of America, 500—5th Ave., New York 36, N. Y. Tuition is $25.

Pesterfield also outlined the course being started this Fall at Springfield Trade School, Springfield, Mass., where Dr. E. P. Garvey, the school's principal, is setting up a two-year course in heavy oilburning. Classes of 40 students will study the subject for 10 months a year, which may be done under the G.I. Bill of Rights. Manufacturers have supplied without cost $50,000 worth of equipment, all of it coming from OHI members. Tuition for this course is $275, to which must be added living expenses and incidentals.

Concluding portion of this day's activities consisted of a six-man panel, each of whom discoursed for five to ten minutes on a specific topic related to commercial-industrial oilburning. This portion of the meeting was followed by a question and answer period, in which all speakers participated.

Immediately afterward the C-I Sections were hosts at a cocktail party.

In addition to Resek, Burg and Prof. Pesterfield, previously mentioned, members of the committee which arranged the April 21 conference day were: Larry D. Sibley, Combustion Control Corp. and chairman Accessory Division of the C-I Sections; J. W. Cowan, Ace Engineering Co.; E. N. McDonnell, McDonnell & Miller, Inc.; Paul K. Addams, Fitzgibbons Boiler Co. and Ralph Becker, managing director, OHI.

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✓ Signs, displays and other point-of-sale helpers are yours, too, in the Sunbeam 1955 Cooling Promotion Package. Ask your Sunbeam distributor to show you samples.

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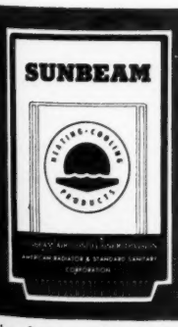
✓ When you set up your cooling campaign, don't forget to take advantage of the 50-50 Sunbeam Cooperative Advertising Plan which reimburses you for a liberal part of your newspaper, radio and TV costs. Get complete particulars from your Sunbeam distributor. **Sunbeam Air Conditioner Division, Elyria, Ohio.**

Contact your Sunbeam Distributor for Full Details

You'll find him listed under "Air Conditioning Equipment" or "Furnaces" in your classified telephone directory.



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Readers' Problems

Q. I will appreciate your letting me know the causes of a yellow flame which I recently have noticed in three different oilburners. In one case, the changing of the nozzle rectified the situation. In the others, the yellow flame still persists. Any information will be received gratefully, as the matter is urgent.

Fort William, Ont., Canada

A. On an installation which is excellent with respect to combustion quality (CO_2 can be above 11%, and smoke reading on Shell-Bacharach scale is no higher than 2) consider the firebox cherry-red hot as the result of running the burner 15 minutes or longer. On such an installation and with the firebox really hot, you can obtain an exceedingly bright yellow flame, possibly with some white to it, by opening the air damper of the gun-type burner too far—so far that the CO_2 reading is lower than it should be, perhaps lower than 7%.

If next you close the burner's air damper somewhat, the flame becomes a somewhat darker yellow. Further closing of the burner's air damper will cause the flame to become still darker yellow with some red in it. Additional closing of the damper will turn the flame to red for the most part—persist in closing the damper and you wind up with a flame that is smoky and mainly dark red.

Stop worrying about the color of the flame, Instead, make certain your installations can give good readings from combustion testing instruments. There are no substitutes for making combustion tests when questions about flame quality arise. Your problems can be solved only by making certain you adjust for properly high CO_2 readings and properly low smoke-checking instrument readings. Installations that cannot produce these have shortcomings that prevent their producing high combustion efficiencies.

Q. I have a stack and flame noise problem. What can be done to eliminate it? The oil-designed furnace has 80,000 Btu output. Stack arrangement, which cannot be changed, includes two 90° smokepipe elbows which may be the reason for the excessive noise. I have tried different air adjustments, different size nozzles, changed pump pressure for quieter operation, but developed no difference.

In reviewing your magazines and your Oil Heating Snag book, I found the J. W. Schulz article of January 1950 on "Sparky" using a smokepipe muffler. I do not get pulsation on this unit as was considered in that article, nor can I put a six foot pipe in place of the draft regulator. The article in the Oil Heating Snag book also considers pulsation as the big factor, not the flame noise I have on my trouble job. Please advise what methods can be

There's no better way to boost your profits than by building customer good will. And there's no better way to build good will than by switching *now* to Sinclair SuperFlame Fuel Oil.

Sinclair SuperFlame builds good will because it offers anti-rust protection at no extra cost. SuperFlame contains Sinclair's *exclusive rust inhibitor, RD-119®*. Used regularly, this top-quality fuel oil protects against rust-clogged filters and burner nozzles . . . assuring greater customer satisfaction . . . *and fewer service calls.*

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SO DIFFERENT — IT'S PATENTED

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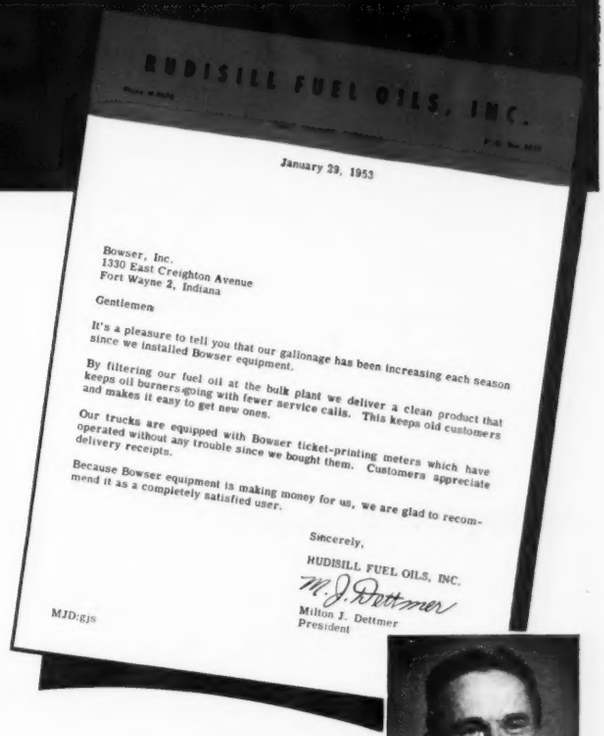
EQUIPMENT DOES MAKE MONEY FOR ITS OWNERS...



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January 29, 1953

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1330 East Creighton Avenue
Fort Wayne 2, Indiana

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Because Bowser equipment is making money for us, we are glad to recommend it as a completely satisfied user.

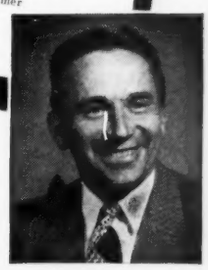
Sincerely,

RUDISILL FUEL OILS, INC.

M. J. Dettmer

Milton J. Dettmer
President

MJD:RJS



M. J. Dettmer, president of Rudisill Fuel Oils, Inc., and many other dealers have proved conclusively that Bowser filtration of fuel oil boosts gallonage and increases net profit. Bowser metering guards inventory, and Bowser meter-printed invoice tickets promote good will and confidence.

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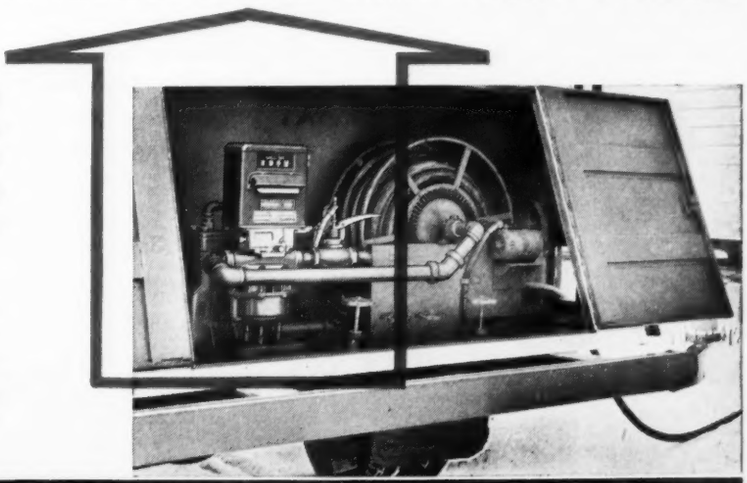

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fueloil & oilheat

used to remedy the flame noise trouble which I have to end.

Milwaukee

A. To try easiest remedies first, switch to continuous ignition if intermittent ignition has been used, but do this only if the firing head is suitable for continuous ignition. On the other hand, try intermittent ignition if up to now continuous ignition has been used. The flames of some burners are quieter with continuous ignition, while the flames of others become quieter after ignition sparks are cut off.

A firebox which is oversize for the gph firing rate, or which fails to become red hot when the burner runs about ten minutes, can cause the flame noise trouble. So can excessive nozzle height (excessive distance from the nozzle to the floor of the firebox). Insufficient side wall height or need for a corbel or step-in design for the back wall may be responsible. Use insulating firebrick and try nozzle height as little as 4", for this is suitable for many small furnaces, but make certain carbon does not build up on the firebox floor as the result of impingement caused by insufficient nozzle height. Using insulating firebrick, shorten the box to the degree that additional shortening would cause carbon to form on the back wall, and build up the front, side and back walls to a height of at least 14"—a height of 16" would be still better than 14".

Flame noise will be reduced on the trouble job by any firebox improvements which wind up with the flame pocketed in a small, extremely hot firebox which has exceptionally high side walls.

To reduce the amount of noise escaping from a draft regulator, use the "elephant's trunk" arrangement. At the location of the present draft regulator, install a smokepipe tee which faces down. Out of the opening in the tee, extend a few lengths of smokepipe downward vertically almost to floor level, then add an elbow in which the draft regulator is installed. To go further, insulate the entire smokepipe and the "elephant's trunk."

The smokepipe arrangement, the two 90° smokepipe elbows, and the chimney draft probably have no relation to the flame noise trouble. However, to make certain of this use a draft gage; adjust for over-fire draft between .01" and .03"—use the lowest over-fire draft that does not give the troubles of insufficient draft.

Because firing heads of different designs give greatly different amounts of flame noise, in cases of aggravated trouble of this type certain determined servicemen end the trouble in a positive manner by equipping the burners with new firing heads (or air-handling parts located in and at the ends of gun tubes) which are known to provide silent firing.

Q. Last summer I purchased a 20-year-old stucco house which appears to be in excellent condition. The downstairs includes three rooms plus an enclosed sun porch, a breakfast nook, and a laundry. Upstairs consists of three bedrooms and bath.

From the very start, the owner used a rotary burner to fire the steam boiler, designed to burn coal. The steam heating system has what I believe is called dual feed and dual return. In my lan-

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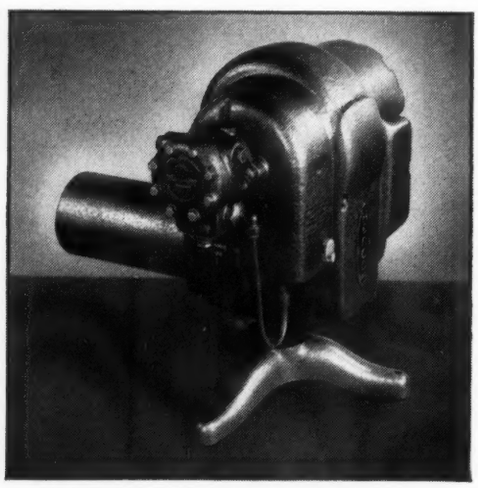
HERCO
CONVERSION BURNERS



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Every Herco is fire tested and guaranteed before leaving the factory. Saves you service headaches, saves your customer troublesome, costly maintenance. Everyone is happier with Herco, and, there's a type and size Herco for every installation. Model F illus. is specially designed for close, extra compact installations, with flange or pedestal mounting. Easy to install, service. Free Catalog.

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You can increase your heating business with Herco. Herco lines now include high and low pressure oil burners, oil and gas fired warm air units, oil fired boiler burner units. Free catalogs.

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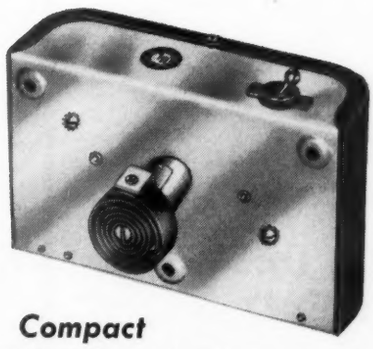
CRISE CONTROLS

The *THIN* Model FAL20A2 Combination Fan and Limit Control with Summer Switch

Front View

Back View



Compact "Watch Spring" Type Bi-metal Element

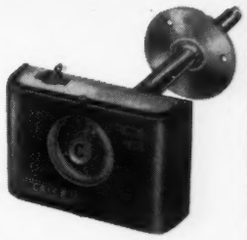
Since the element in this Crise Model FAL20A2 is less than two inches deep, it will fit into a narrow space between the heat exchanger and mounting panel. Thus the control may be used where, because of space limitations, a more expensive remote stem has been required. Other features include easy to read dial and adjustable fan and limit settings. Manufacturers of heating equipment are invited to write for samples and quotations.

CRISE CONTROLS DIVISION

ACRO MANUFACTURING COMPANY

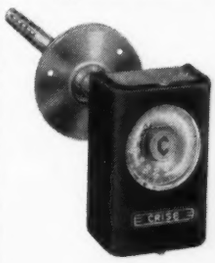
COLUMBUS 16, OHIO

Distributed in Canada by Leland Electric Canada, Ltd., Guelph, Ontario



TYPE FAL10A2
Combination fan and limit control with summer fan switch

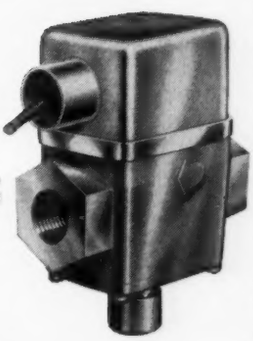
There's a dependable Crise Control for every application . . .



FOL60
Warm air limit control or fan control

FAL45
Same as FAL40 but with watch spring bi-metal for use in limited space

FAL40
Combination fan and limit control with fully adjustable fan and limit settings



5V100 SOLENOID VALVE
Suitable for use with all types of gases

ZONETROL
Automatic zone control for heating and air conditioning

guage, the boiler sends out steam from left and right feed pipes and naturally each of these has a return line.

I am experiencing two difficulties. One is that several radiators, one the nearest to the boiler, fail to heat except slightly. Another radiator seems to heat at the top only.

The second difficulty is excessive oil consumption; 2,500 gallons for the year, including year-round hot water. My thermostat is set at 72° day and night.

I changed vent valves. These seemed less satisfactory than the first valves. I am now, at the advice of my fueloil supplier, installing another make of vent valves. I cannot report on the performance of these yet. Have you any other suggestions?

Manhattan, N. Y.

A. First, you are entirely correct in concentrating on air-venting the radiators properly and in investing in radiator vent valves designed 100% for intermittent firing. Follow the instructions of the manufacturer of these vent valves, and you'll end any venting difficulties that have plagued you.

Be thorough and put a thermometer on the inside wall of every room—or at least every important room—and wind up with your radiator venting so balanced that you arrive at the temperature you desire in every room.

Regarding the radiator that you say heats at the top only: Different types of radiators heat differently, and you may have different types in your heating system. Particularly during mildly cold weather, a radiator may heat at the top only and still heat the room properly. Use proper radiator air-venting technique to obtain the proper temperature in every room, and do not be concerned over the manner in which the radiators heat—tops first or ends first.

If working on the foregoing basis does not produce heat that pleases you in every room, your radiators may not be of the proper sizes for the heat losses of your rooms. One or more radiators may be considerably undersize.

Then, too, perhaps some of the vent valves could be switched to better locations on the radiators. Facing such complications, you need help from an expert who knows one-pipe steam systems from "A" to "Z."

You certainly need an expert to ascertain the efficiency or inefficiency at which your oilburner and boiler perform. Have complete combustion tests made to determine readings of smoke, CO_2, draft, and stack temperature. Such tests are to an oilfired boiler what miles-per-gallon tests are to an automobile.

Some old boilers not designed for oil waste far too much heat up the chimney—in some cases, 40% to 50% of the heat in the fueloil burned goes up the chimney. If combustion tests prove your boiler is extremely inefficient, the expert who makes the tests will tell you if the waste of oil can be reduced by improving your equipment, or if your only way to high efficiency lies in buying a new boiler designed for oil and capable of highly economical operation.

Check also on the possibilities of replacing an old room thermostat with a modern room thermostat that can provide smoother heating. Use of a clock arrangement to reduce house

KORTH SHELL HEAD

NEW IMPROVED SHELL DESIGNED COMBUSTION HEAD OIL BURNER

with 4 Minneapolis-Honeywell controls, including V4001A Delayed Oil Valve, factory mounted.

ALL AIR ADJUSTMENTS PRIMARY and SECONDARY MADE EXTERNALLY WHILE BURNER IS OPERATING

Model SR-SH

LOWEST PRICE!

—SAVES FUEL—

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"Seal of Quality"

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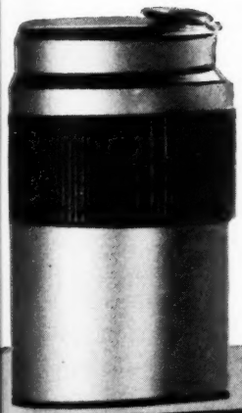
The security of Quality



The man who depends on his heating dealer's judgment is in good hands. His home will enjoy the security of quality — its safety, economy, dependability. A record of more than 15,000,000 Field Draft Control installations stands as proof of your unwavering loyalty to quality.

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field

FIELD TYPE "M", domestic, commercial, and industrial models for oil and coal fired heating plants. Sizes 6" through 32".

FIELD TYPE "MG", double acting models for commercial and industrial gas fired heating plants. Sizes 8" through 32".

FIELD TYPE "RC", for domestic oil and coal fired heating plants. Sizes 7" and 9" for 6" through 10" flues.

temperatures automatically at night saves appreciable fuel in many homes —in some, has reduced oil bills 15%.

Q. We recently purchased a five-room, two-story house (plus basement and unheated, partly finished attic used for storage) which is heated by a furnace, warm-air, forced-circulation. Prior to 1947 the house was heated by coal, warm-air, and the present system fired automatically, was installed at that time by the owner.

The rooms on the second floor (two and bath) are quite adequately heated, and there's no problem there.

But the first floor! After trying weatherstripping, I had to look elsewhere for the source of the trouble. The moment the furnace stops running (when it is cut off by the thermostat) a terrific draft can be felt around the feet. I have discovered that when the furnace is running, what seems to be volumes of cold air pour out from or around the returns in the living room, hall, and dining room, and particularly the living room. In the living room this seems to exist even when the furnace is not running, though perhaps to a lesser degree.

What would you suggest? Thank you very much.

Mt. Vernon, N. Y.

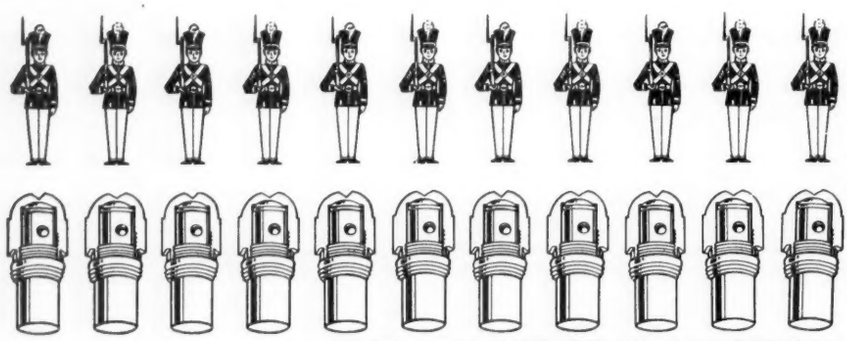
A. Unfortunately, you seem to have bought yourself a house which has first-floor drafts or air currents that are intolerable to you. As you have ascertained, the trouble relates to the performance of your forced-circulation warm-air heating system.

Ordinarily, the only corrective measure within the scope of a home owner's ability is to shift the furniture around so that the most used chairs, etc., are in locations having least draft.

Exceptionally thorough home owners, determined to help themselves as much as possible, go a few steps further. If you fit in this category, first study each first-floor register. With the furnace running, ascertain which registers are supply registers and flow warm air into the rooms; ascertain which registers are return registers and remove air from the rooms to return it to the furnace. Puffing cigarette smoke in the vicinity of a register is a big help. Your studies of the registers should give you ideas about which supply registers are offenders with respect to emitting excessive air and stirring up the air in the rooms in an objectionable manner.

Next transfer your operations to the basement and find out if the supply ducts (conducting warm air from the furnace to the supply registers) have "balancing dampers." They should have, and probably have. You can adjust such balancing dampers so that only proper amounts of air flow from each supply register. If you are lucky, you may be able to improve your heating considerably by reducing the flow of air from the first-floor supply registers which you earlier ascertained were blowing too much warm air.

If you reduce the first-floor air circulation considerably, you may have to reduce the second-floor air circulation also to avoid overheating second-floor rooms and wasting fuel as the result. Even then, your fuel consumption may increase as the result of your arriving at greater comfort, for the system may have been adjusted in bygone years to circulate vast amounts of air in first-



UNIFORMITY

is important in nozzles!

6 Monarch Features

★ 1. Every Tip individually tested for Spray Angle and Capacity — your guarantee of uniformity.
★ 2. Self-Centering internal assembly always produces a balanced spray—No lopsided fires.
★ 3. Micro-Finish of Tip and Disc seats plus extremely close manufacturing tolerances insure accurate capacity control.
★ 4. Will handle any domestic oils currently being supplied in the United States or Canada.
★ 5. Tip, Disc and Locknut are made of a High Chrome Stainless Steel for maximum heat and wear resistance.
★ 6. Five different series available for producing various spray characteristics—all developed through hundreds of fire tests in both Laboratory and Field work.

WRITE FOR CATALOGUE "O"

"24" & "48" Nozzle Boxes

Don't jumble your nozzles loosely in your tool box like you expect them "nuts and bolts" if to be usable. Carry them securely in these sturdy, compact steel boxes.

FLAME MIRRORS

Until you can see the flame you can't tell whether or not a burner is firing properly! With a Monarch Flame Mirror you can see to check that the flame is balanced, the electrodes properly located, and that there is no flame impingement on the firebox or air cone.

DEALERS: Buy from your Monarch Jobber

Monarch MFG. WORKS, INC.

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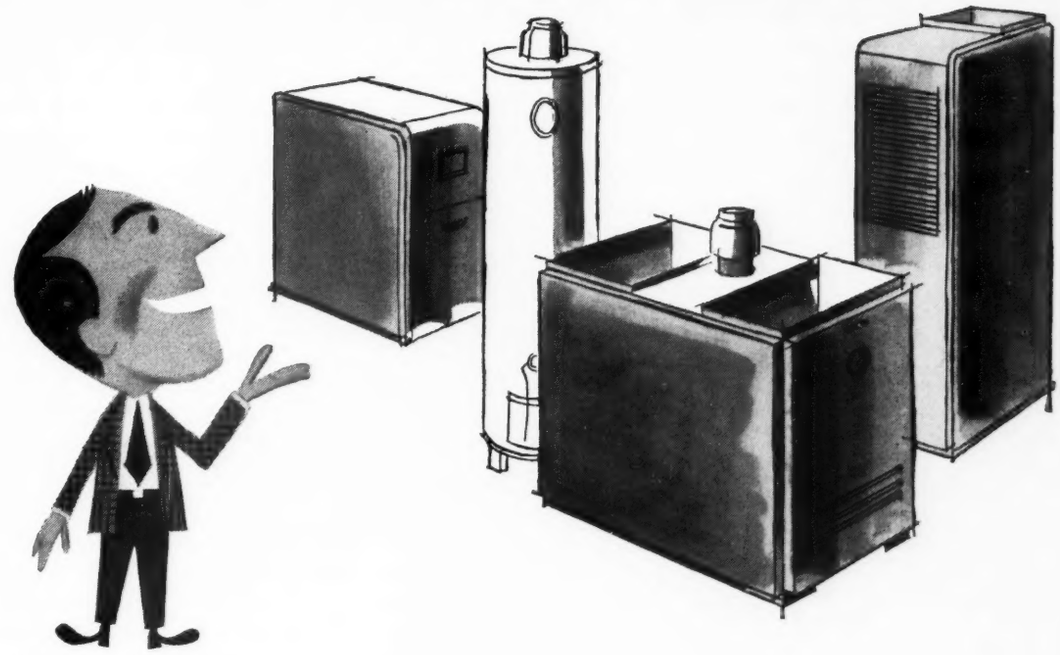
Canadian Sales Agents: (Except B.C.) Canadian General Filters Ltd., 2679 Danforth Ave., Toronto 13, Canada

Sell the most complete line!



Furnaces, boilers, air conditioners—space, water and unit heaters! For every purpose, every purse—from one source. **BRYANT**, of course!

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Only "Mr. B"—the Bryant Home Comfort Dealer—has *all 8* of these selling assets to build his business BIG:

1. A name customers know and want
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3. Quality equipment for every market
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For bigger profits now, for a secure and prosperous future—see your Bryant Distributor. Ask him about Bryant's big "Mr. B" action program, and how it can make sales and money for you!

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AUTOMATIC HEATING
AIR CONDITIONING
WATER HEATING

fueloil & oilheat

floor rooms (especially the rooms whose temperature affects the room thermostat) and thus use minimum fuel.

To play safe, mark the position of a balancing damper before you move it. Nail polish is good for this. Then if you find that your fuel bills shoot up as the result of your efforts to balance the system better, you can return the balancing dampers to their original positions if you decide to.

The work of balancing a troublesome system is accomplished best by an expert who uses proper instruments for measuring the flow of air into and out of the registers. Such an expert can determine if your system will operate properly without important improvements, or if changes should be made in the ducts and registers. The expert can also make important adjustments to the controls of the system, which may be needed for satisfactory operation.

Q. I am making up an emergency, portable motor-driven fuel unit like the one shown on p. 50 of the October 1951 issue of FUELOIL & OIL HEAT, *but I am not certain about the gages. The pressure gage would mount in the port normally used for air-ridding the fuel unit. I would use a pipe tee—mount in it the pressure gage and a small hand valve to permit easy air-ridding. Your article had no provision for the air-ridding.*

I presume the vacuum gage would connect to the return port. It would seem advisable to use a pipe tee there also so that the port can be closed easily if no return line is used.

I am not certain about this but perhaps the vacuum gage would be in the suction line. Please advise at once.

Butte, Neb.

A. Your idea of the tee for the air-ridding valve and pressure gage is excellent. True, our article on the portable fuel unit did not cover this idea.

But don't install the vacuum gage in the return-line port of the fuel unit. Instead, install the vacuum gage in a spare suction-line port, if the fuel unit has such a port—then the vacuum gage would read the vacuum in the strainer chamber of the fuel unit when a two-line set-up is used on an outside tank job. Or do this, for doing it you certainly can't go wrong: When you use a two-line set-up (when you use a return line on an outside-tank job) connect the vacuum gage in a pipe tee that's in the suction line and close as feasible to the fuel unit. You want to use the vacuum gage to tell you the vacuum the fuel unit develops in the suction line in its effort to draw in oil from an outside tank.

Q. I have a problem and I wonder if you could give me an answer.

What makes burners with——heads appear to have oil leaks at or near the nozzle? I say appear because I haven't been able to say that I've found a leak although the blast tubes were wet and so were the floors under them. On the three jobs I have in mind, the nozzles and nozzle adapters were replaced and every conceivable adjustment was tried. Cut-off valves of all three fuel units are good and all are equipped with M-H delayed-opening solenoid valves, located in nozzle lines. One of the trouble jobs is gravity-feed type, having an inside tank. Two are two-

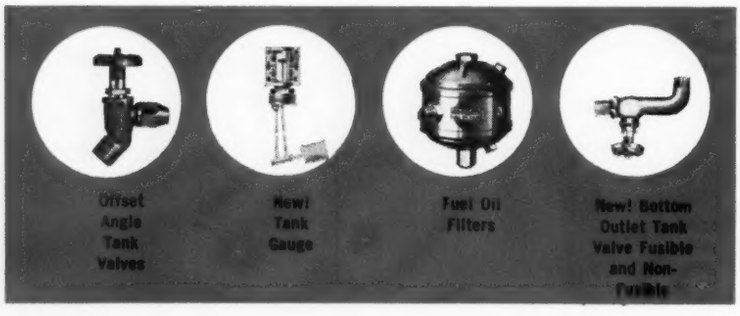
Firomatic

FUSIBLE & NON-FUSIBLE VALVES • FUEL OIL FILTERS • SAFETY DEVICES

Firomatic Fusible Valves are designed to close automatically when subjected to heat of 165°. Since the fusible element is in the handwheel, it is not necessary to replace the valve or remove it from the line if metal is fused. Simply replace the low cost handwheel. All Firomatic Fusible Valves can also be operated manually.

The Firomatic line offers over 80 different types of valves, as well as Thermal Switches, Fuel Oil Filters, Tank Gauges, Fill Boxes and Vent Caps. Sold nationally by jobbers only.

"Take it from me: It's a lot of valve for the money. Protects your customers, too!"



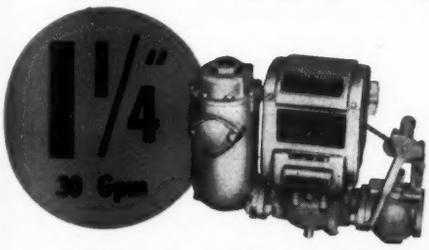
FIROMATIC DESIGN CAN BE IMITATED— BUT FIROMATIC QUALITY AND SERVICE CANNOT BE DUPLICATED

THE MORSE SMITH MORSE CO.

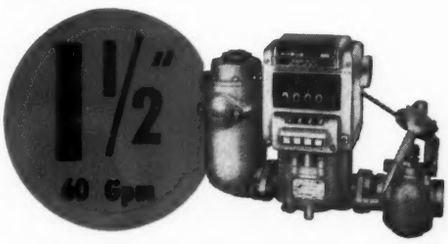
165 Dexter Avenue • Watertown, Mass.

There's an efficient
NEPTUNE RED SEAL METER
for every job

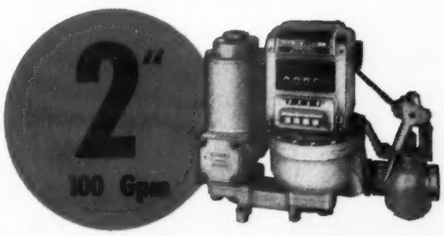
FOR TANK TRUCKS



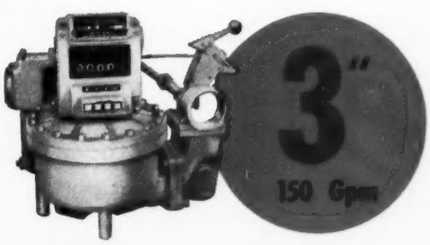
1¼" Tank Truck "Compact" (30 Gpm)—Ideal for small tank trucks. All accessories required for accurate metering are built in. Adaptable to right-hand, left-hand or angle arrangements.



1½" Tank Truck "Compact" (60 Gpm)—For medium sized fuel oil, gasoline or dual-service trucks. Meter, register, Auto-Stop valve, air release, and back pressure valve are all assembled in one easy-to-install, space-saving compact unit adaptable to many arrangements.

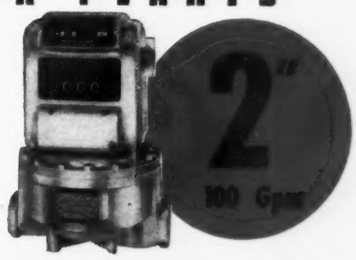


2" Tank Truck "Compact" (100 Gpm)—Meets trend to larger trucks, faster deliveries. All-purpose unit contains all accessories needed. Flexible assembly fits easily into most piping and space conditions. Easy to operate and maintain.

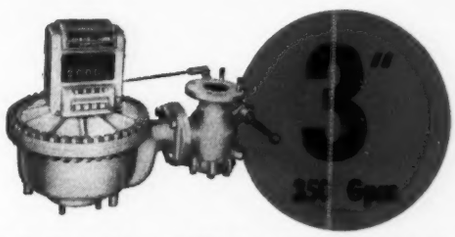


3" Red Seal "Compact" (150 Gpm)—Used for larger tank trucks, such as gasoline trucks and transports. Adaptable to either pump or gravity delivery. Like other Red Seals, it's the ultimate in sustained accuracy and low maintenance.

FOR BULK PLANTS



2" Bulk Plant Meter (100 Gpm)—For low-volume bulk plant applications. Extremely accurate and trouble-free, with sustained accuracy and long-life assured by sound engineering, high-quality materials and careful manufacture. Smaller 1", 14 gpm., 1¼", 30 gpm., and 1½", 60 gpm. meters also available.



3" Bulk Plant Meter (350 Gpm)—Rugged, precision-engineered, with all the reliability of popular Red Seal tank truck meters. Fast becoming the standard of comparison among meters for loading racks. New Auto-Stop valve now permits faster delivery, smoother cut-off.

4" Bulk Plant Meter (650 Gpm)—Ideally suited for high-capacity requirements of modern bulk plants. Now available with the Auto-Stop register and double-trip cushioned valve.

RED SEAL REMOTE CONTROL METERING SYSTEM

gets trucks rolling minutes faster . . . with all control firmly under the thumb of one man. Each rack meter is accurately synchronized with a Remote Control Print-O-Meter inside the office. Automatic interlock prevents withdrawal of product until authorized.

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RED SEAL METERS

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line jobs having underground tanks.

Hope that you can be of help to me.

Rhode Island

A. Improper spray of oil from the nozzles may cause this trouble, which is not uncommon, therefore make certain you are using nozzles of proper spray angles and spray patterns. Consider switching to nozzles of different types or makes, just for try. Also make certain the atomizing pressure is correct—use a pressure gage.

Make certain the fireboxes are of proper design and construction; use a draft gage to check for proper overfire draft. Both these items relate to avoiding having the flame sweep wrongly against the open end of the gun tube.

Most likely, however, the combustion heads are adjusted incorrectly with the result that at certain points within the heads there is sub-pressure instead of plus-pressure. This tends to draw atomized oil backwards into the heads. Start a burner and wait until the spark has been turned off (use only intermittent ignition with these heads, of course) then use a flame mirror to make certain the flame front starts the proper distance from the nozzle. With the firebox extremely hot, make certain the flame starts burning sufficiently far from the nozzle. Look for signs that atomized oil from the nozzle spray, together with traces of flame, are darting back into the firing head at times. If you see such signs, the firing head is adjusted incorrectly. Proper adjustment which eliminates the signs will end the wetting with fueloil of the air-handling parts within the gun tube.

Q. Your pages always recommend the use of low draft. So I understand that this boiler fired at 8.0 gph to heat an apartment house should have overfire draft no higher than about .05" or so.

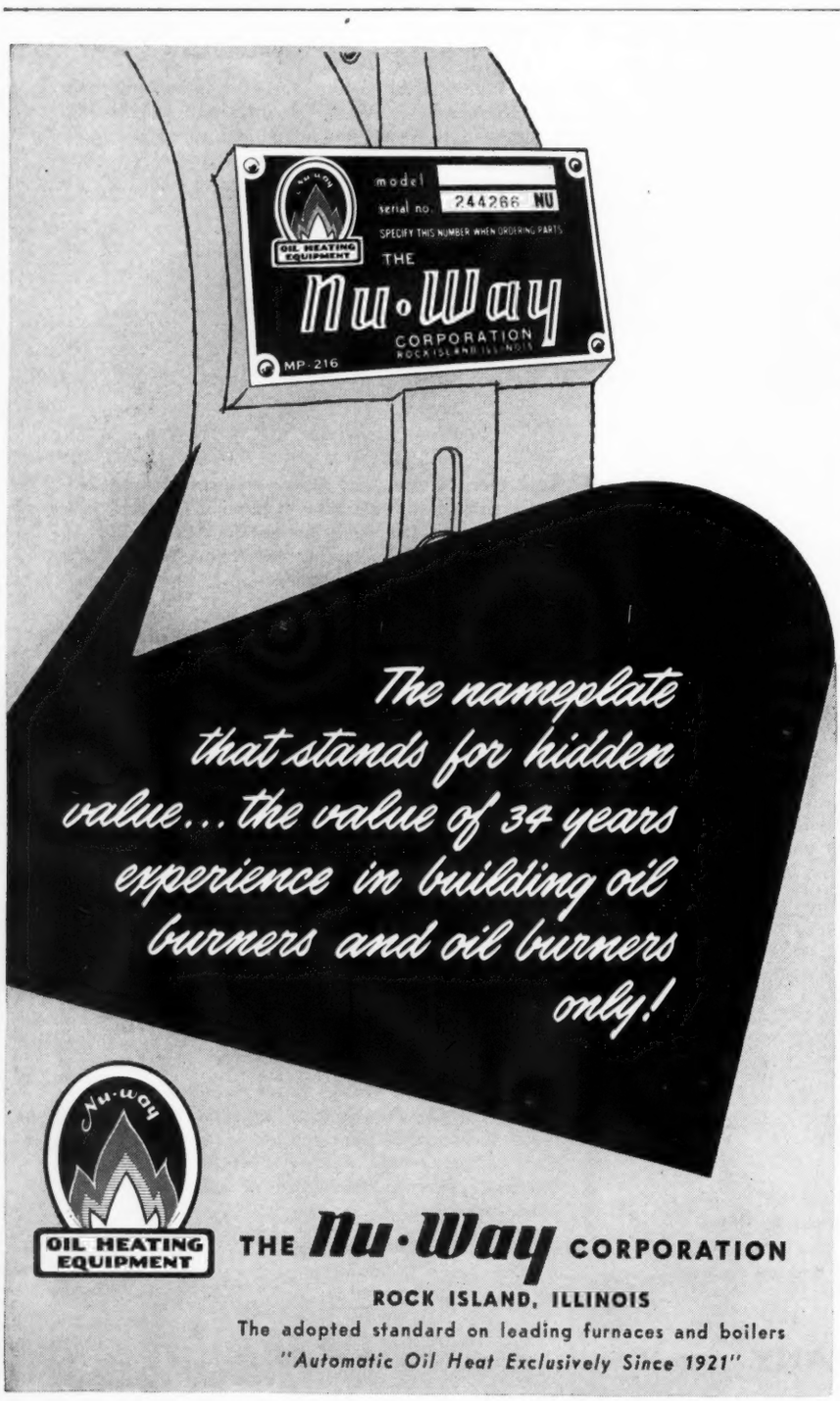
Trouble is, if I don't use all the draft the chimney can provide, the flame is not bright and clean. Burner air damper is wide open. In fact, I removed damper parts to provide maximum air flow through burner. A lower rate than 8.0 gph won't heat the house in coldest weather.

Am I doing the right thing under these conditions using maximum chimney draft? Draft regulator is tied shut giving readings of .22" smokepipe draft and .18" overfire draft.

Syracuse, N. Y.

A. Obviously the oilburner falls just a bit short of being able to fire 8.0 gph, for the flame receives sufficient air only when you adjust for draft that's unusually high. The excessive overfire draft coaxes a bit of extra air through the burner, probably, and gives additional extra air through air leaks around the front and sides of the boiler base.

Because the burner is slightly undersize, you are wasting fueloil, perhaps 5% to 15% of the oil used, by employing the expedient of excessive draft. Some experts would prefer secondary air ports in the firebox floor, or in the front wall of the firebox below the gun tube. Such ports would permit adjusting for proper draft without the flame's smoking. Perfectionists would say the undersize burner should be replaced by a burner that can fire 8.0 or 9.0 gph without smoking—and with proper overfire draft.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The adopted standard on leading furnaces and boilers
"Automatic Oil Heat Exclusively Since 1921"

How to stop a cold client from getting hot under the collar!

When a clogged oil burner nozzle sends a cold client on a polar expedition at the crack of dawn – chances are you'll be blamed even though tank and pipe scale caused the trouble.

But there *is* a way you can transform this frosty situation into good will – and make a sale at the same time. Simply explain to your customer that what he needs is a Purolator filter!

If he drives a car, he knows what a Purolator is and what it does. He's already presold. Just point out that a Purolator PF-2002 oil burner fuel line filter prevents nozzle clogging, and a lot more besides. It cuts down fuel pump wear . . . keeps his burner running smoothly . . . actually lowers his fuel consumption by improving combustion. He'll be sold on Purolator, and you'll have a happier customer.

Purolators are easy to install and service . . .

Simply connect directly into the fuel line on the suction side of the pump. No mounting fixture needed. And the only maintenance is an annual replacement of the Purolator PF-200 filter element.

For complete details and prices of Purolator filters for domestic oil burner installation, write Dept. OB2-512, Purolator Products, Inc., Rahway, N. J.

PUROLATOR

"FIRST IN THE FIELD OF FILTERING"

fueloil & oilheat

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to the editor by the 15th.

API Fueloil Committee names five Speakers for Meeting

A FORUM-TYPE MEETING, utilizing five speakers has been planned by the Fueloil Committee of the Division of Marketing, American Petroleum Institute at their forthcoming meeting in St. Louis on May 24.

Using "Better Living with Oilheat" as a program theme, speakers and their subjects include: Robert Gray, FUEL-OIL & OIL HEAT, New York, N. Y., on "Oilheating Market Reports"; William Briggs, Valley Oil Co., Middletown, Conn., discussing "Consumer Attitudes toward Oilheating and how to improve Them"; D. L. Barrett, Fueloil Dept., Manager, Esso Standard Oil Co., on "Fueloil delivery Methods"; Francis J. Schuster, Troy Oil Co., Indianapolis, Indiana, reviewing "Fueloil Budgets & credit Policies"; and J. E. Collins, Manager, Oilheating Division, Frontier Oil Co., Buffalo, New York, on "Oilburner service Responsibility." M. N. Vining, chairman of the Committee, will act as Moderator.

In addition to the Forum, there will be a general meeting of the Fueloil Committee at 10:00 A.M., Tuesday, May 24.

GREATER PROFITS... with less effort when you install REXOIL OIL BURNERS

GREATER PROFITS . . not an empty statement, but a fact proven by an independent survey organization after interviewing a representative group of Oil Burner Dealers in 2 different cities.

Why don't you increase your profits by selling and installing REXOIL . . the finest oil burner made.

4 Reasons for greater profits

- **25% LESS INSTALLATION COST** . . This is really an extra 25% clear profit for the REXOIL dealer. There's no easier way to make money than just not to spend it.
- **PRACTICALLY NO REPAIRS** . . Repairs are always expensive to the dealer and annoying to the customer. Seldom does any REXOIL ever need repairs.
- **FREE ENGINEERING SERVICE** . . For those hard-to-figure jobs — REXOIL engineers will prepare all plans and specifications without cost to you.
- **ADVERTISING ASSISTANCE** . . Prepared mailing pieces, newspaper mats, point of purchase displays, etc. are supplied to REXOIL dealers FREE. You pocket this saving, too!

JOBBER AND DEALER INQUIRIES INVITED!
• Conclusions resulting from independent survey of oil burner dealers.

REIF-REXOIL, INC.
37 CARROLL ST.
BUFFALO 3, • NEW YORK

Northwest Group Sponsors service training Program

THE ONLY BURNER SERVICE Mechanics School on the West Coast is due to start on May 15 and will be sponsored by the Oil Heat Institute of Oregon, Portland, Ore.

Running through to August 31, the classes will meet Monday through Friday from 8:30 AM to 3:30 PM at Multnomah College. Graduates will be certified by OHI and the College.

The course is aimed at giving the qualified student a thorough knowledge of theory and practical work in all types of oilfired equipment. It is expected that upon completion the student will be equipped to go into the field as a well-trained burner service mechanic.

Tuition for the full course has been set at $275, with tools and books additional.

OHA of Maryland will hold two day Convention in May

HIGHLIGHT of the Oil Heat Association of Maryland's two day Convention to be held May 16-17 at the Stafford Hotel, Baltimore, Md., will be the Perfex school of dealer management and sales.

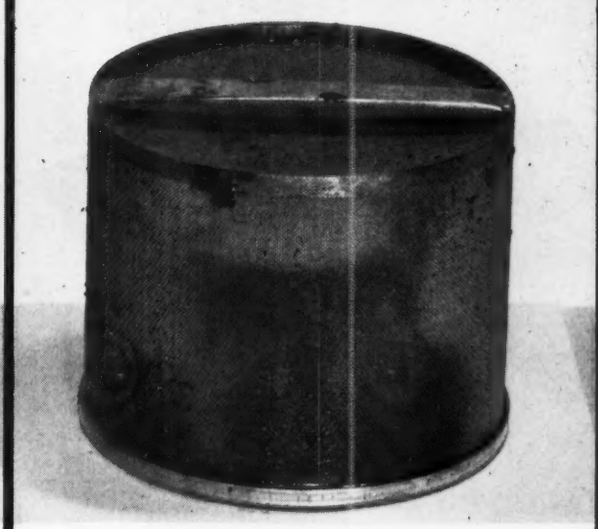
Under the direction of R. F. Horan, merchandising manager of the Perfex Corp., Milwaukee, Wisc., the school will be divided into two sections. The first section will be held Monday, May 16 at 7:30 to 10:30 P.M. and will be devoted to the "Art of Salesmanship." The second session will start at 9:00 A.M. on "Dealer Management."

You can prevent screen clogging, tank rusting and color breakdown with Monsanto's fuel oil additives

ORDINARY UNINHIBITED FUEL OIL

Gummy fuel oil sludge and sediment clog screen after only two-hour circulating pump test. Result: oil burner parts operate less efficiently, causing eventual breakdown.

SAME FUEL OIL WITH SANTOLENE H



Screen remains clean after two-hour circulating pump test. Santolene H keeps burner parts working smoothly, more efficiently by preventing progressive polymerization of unstable elements in the oil.

Good fuel oils are made better with Monsanto's fuel oil additives.

Refiner-distributor cooperation means satisfied customers . . . more profits.

SANTOLENE H. In addition to alleviating sludge and sedimentation, Santolene H also:

- **Overcomes screen clogging.**
- **Eliminates fogging** and line freeze-up caused by fuel oil-water emulsions.
- **Keeps burner parts clean.** Surface action prevents particles from settling.
- **Inhibits tank rust.** Forms protective coat on tank and other metal surfaces.

SANTOLENE J. A fine quality fuel oil additive designed to:

- **Stabilize color.** Prevent formation of color bodies.
- **Reduce sediment formation.** Prevent agglomeration of insoluble color bodies.
- **Inhibit rust.** Prevent formation of water haze or stable emulsions.

Santolene: Reg. U.S. Pat. Off.

Santolene J Stabilizes Color

In test, ordinary untreated fuel oil (left) and the same fuel oil containing Santolene J (right) were baked at 110° for 12 days. Result: Fuel oil with Santolene J held original color and clarity; no sediment formed. Untreated fuel oil clouded with sediment, and lost color.

For information on Santolene H, J, and F, write Organic Chemicals Division, MONSANTO CHEMICAL COMPANY, Box 478-T-4, St. Louis 1, Missouri.

MONSANTO
CHEMICALS—PLASTICS

SERVING INDUSTRY...WHICH SERVES MANKIND

Following a noon lunch, a series of round table discussions will be held until 4:30 P.M. After a cocktail hour dinner will be served. The dinner will feature a nationally known speaker, and the music of Rivers Chambers.

Jersey fueloil men's Meeting features panel Discussions

HIGHLIGHT of the seventeenth Annual Convention of the Fuel Oil Distributors Association of New Jersey, held at the Hotel Berkeley-Carteret, Asbury Park, N. J., on April 28-29, was a series of panel discussions dealing with various phases of the oil heat industry.

The first panel, moderated by William M. Norton, Jr., Norton Oil Co., Phillipsburg, was devoted to the general, over-all oilheating picture, and included talks by the following: Irving Oelbaum, Liberty Fuel Oil Co., Newark, on fueloil delivery; Harold W. Winkler, Blondel's Home Heating Div., Montclair, on oilburner service; and James H. Wright, Jr., Home Fuel Co., Passaic, on meeting competition from other fuels.

Modern merchandising methods were the subject of the second panel, and featured talks by William Briggs, president, Valley Oil Co., Conn.; and Fred Haab, Philadelphia, Pa. Robert Gray, editor, FUELOIL & OIL HEAT, was the moderator.

The final panel considered "Your Future in Oil Heat," moderated by Robert Crane, Reel Strong Fuel Co., Cranford. Speakers included Thomas Valleau, Eggert Oil & Coal Co., Morristown; Leo Kramer, Monarch Oil Co., Elizabeth; Mitchell Rile, Mitchell Oil Sales Co., Montclair; and G. Ellsworth Harris, Gotham Advtg. Co., New York.

Other major speakers not on the panels were E. H. Collins, Esso Standard Oil Co., New York, who spoke on "Competition . . . old and new"; Leo Serven, The Atlantic Refining Co., Philadelphia, Pa., on "Value of Accounting to a business Man"; the Honorable William O. Barnes, majority leader of the State Assembly, on "Business's Interest in Political Affairs"; and Robert Crane, who reviewed the work of the Oil Heat Council of New Jersey.

The Council has arranged for 273 outdoor posters to be displayed throughout the state starting on July 15. The time lapse between the present program and the new plan will be filled by 15 interim outdoor posters to maintain continuity.

Presiding officer for the first luncheon was John deC. Blondel, John Blondel and Son, Montclair, while Willard Hedden, Hedden Co., Dover, was in charge of the second luncheon.

As in past years, there were a number of exhibiting companies, in addition to a tank truck display outside the hotel.

Union County OHA sponsors advanced procedure School

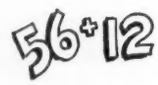
A CONCENTRATED COURSE in advanced oilheating procedure was sponsored recently by the Union County (N. J.) Oil Heat Association at the Winfield Scott Hotel, Elizabeth.

Running from 8:30 A.M. until 5:30 P.M. the course included talks on com-

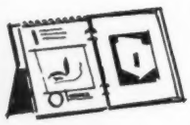
Why ARMSTRONG Dealers Make Money . . .

ARMSTRONG DEALERS . . . have no warehousing problems, no heavy inventory investment, no long-distance shipping delay. Nearby Armstrong wholesalers carry complete inventories and can deliver at a phone call's notice.

ARMSTRONG DEALERS . . . have to spend just a minimum of their valuable time on installation and adjustment. Armstrong units are designed and constructed to simplify installation and virtually eliminate costly call-backs.



ARMSTRONG DEALERS . . . have the right unit for any job, whether it's heating or cooling. Armstrong's 56 heating units and 12 summer air conditioners cover the widest possible range of installations. Many exclusive Armstrong features offer Armstrong dealers distinct selling advantages over competition.



ARMSTRONG DEALERS . . . have the finest and most powerful merchandising aids to help them sell. Advertising folders, newspaper ads, radio and TV scripts, prospect letters and many other "silent salesmen" help to tell the great Armstrong story. The fascinating new Armstrong Visualizer actually builds an Armstrong furnace, part by part, as the prospect watches.

ARMSTRONG DEALERS MAKE MONEY . . . and there may be an Armstrong dealership available in your area. Call your nearby Armstrong wholesaler now. If you don't know him, drop a line to us at Dept. F for his name.

ARMSTRONG FURNACE COMPANY
COLUMBUS, OHIO • DES MOINES, IOWA

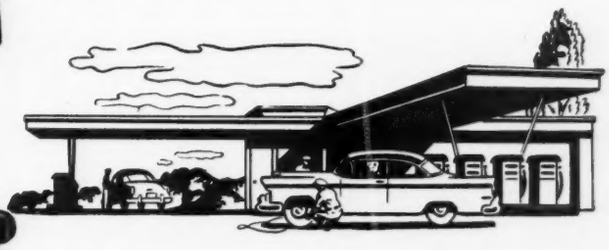
Complete Line
Warm-air Furnaces — oil, gas, coal
Summer Air Conditioners — water or air-cooled

Attract Motorists!

DRESS UP

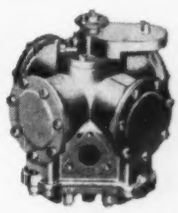
Your Station with the Newly Styled

SMITHway Dispenser



To attract more motorists, your station must look more inviting in every way. The new SMITHway Dispenser is truly modern, functionally better, completely A. O. Smith Engineered. Developed through research . . . for a better way! Find out how little it will cost to *dress up* your station with SMITHway Dispensers. See nearest representative or write for Bulletin 171.

The meter is the heart of the pump. The time proven PM-2 meter is doubly-guaranteed to give you years of service. First—a full 2-year guaranty. Second—a $15.00 replacement plan!



Through research ... *a better way*

A.O.Smith

CORPORATION

METER PRODUCTS

Factories: 5715 Smithway St., Los Angeles 22, Calif.; P. O. Box 500, Succasunna, N. J. Offices: Atlanta, Chicago 7, Houston 20, Los Angeles 22, New York 17. Canada: Toronto 12, Vancouver 1. International Division—Milwaukee 1, Wis.

that as a result, the exact number of gallons, in tenths, that are delivered to a customer must be recorded.

Massachusetts Group hears Roberts on liquid Fertilizer

SPEAKING on "To fertilize or not to fertilize," Professor Eliot C. Roberts of the Massachusetts State Agricultural College at Amherst was the major speaker heard by the Massachusetts Oil Heating Assn., Inc., at their 210th meeting April 12 at the Hampton Court Hotel, Boston. An expert on turf growth, Roberts discussed types of liquid fertilizer formulae and methods of application.

In addition to Roberts, Walter Hall, Hall Equipment Co., described the "Equipment necessary to convert fuel-oil Trucks to spraying of Fertilizers."

It was also announced that the South Shore Country Club, Hingham, Mass., has been selected for the group's annual outing which will be held May 24. Feature of the outing will be a clam-bake.

SINCE 1937
COMPARE THE QUALITY
PATD AND PAT'D PEND
FULFLO FILTERS
Fulflo FILTER
FB4
When you buy FILTERS compare the QUALITY.
The Superior Quality of FULFLO FILTERS has made MORE PROFIT for MORE DEALERS than any other FILTER.
Get your share of Filter Profits . . . Use FULFLO
STOP COSTLY SERVICE CALLS WITH FULFLO FILTERS
COMMERCIAL FILTERS CORPORATION
MELROSE, MASSACHUSETTS

IBR Booklet tells Value of boiler, radiator Ratings

AIMED AT architects, engineers, builders and others who specify or install heating equipment, the Institute of Boiler and Radiator Manufacturers, New York, N. Y., has issued a new illustrated pamphlet outlining the significance, and basis of IBR ratings, and entitled "What Standard Do You Demand?"

Covering the ratings of boilers, baseboards and finned-tube radiation, the booklet discusses the value and importance of these ratings as impartial, permanent standards.

Copies of the pamphlet may be obtained by writing the Institute's headquarters at 608 Fifth Ave., New York 20, N. Y.

Warm Air Association to hold semi-annual committee Meetings

JUNE 9 and 10 have been selected by the National Warm Air Heating and Air Conditioning Association, Cleveland, Ohio, for the semi-annual board of trustees and committee meetings. Headquarters for the convention will be the Drake Hotel, Chicago, Ill.

All committees will meet on one of the two days. Members desiring room accommodations at the Drake Hotel should contact Jay Wallace there.

Heating Wholesalers move, name W. R. Bull Director

TRANSFER of the national headquarters from Chicago to Columbus, Ohio was announced recently by the National Heating Wholesalers Association. At the same time, it was disclosed that Wilbur R. Bull had been appointed as the group's executive director.

A specialist in trade association management, Bull most recently was an executive of the Ohio Trucking Association, and prior to that position held the post of executive head of the Highway Transportation Institute of Ohio.

The group's new headquarters are located at 1200 W. 5th Ave., in Columbus.

THIS MAN IS WANTED IN PITTSBURGH!

HE'S WANTED BY FURNACE BUYERS BECAUSE HE SELLS PERFECTION WITH REGULAIRE*

He happens to be a heating dealer in Pittsburgh but he might just as well be a dealer anywhere else in the United States. Perfection dealers *are* wanted . . . and sought out . . . by furnace prospects because they offer the one furnace that makes the *big* difference in comfort. It's Regulaire!

Regulaire eliminates the "blow hot—blow cold" discomfort of on-off furnaces. Its thermally-operated regulating vane automatically insures a smooth flow of continuous warmth for all-over, FULL-TIME COMFORT. With Regulaire's constant warm air circulation, floors *can't* get cold.

Simple, service-free Regulaire virtually ends call-backs. Only Perfection has Regulaire, today's big difference in furnaces. So if you're interested in getting on the "wanted" list with furnace prospects, let us show you how easy it is to become a Perfection dealer. Increase your share with Regulaire . . . and Perfection's Hi-Lo fire. PERFECTION INDUSTRIES, INC. (formerly Perfection Stove Company) 7618-E Platt Avenue, Cleveland 4, Ohio. *Pat. pending

YOUR HOME DESERVES A **Perfection**

AUTOMATIC HEATING • AIR CONDITIONING

fueloil & oilheat

Phila. Oil Heat Divisions review year's Activities

A RECENT REVIEW of the activities of the Electrical Association of Philadelphia for 1954, published in the form of a year book, shows that its Oil Heat Divisions have accomplished much during the past year.

Among the achievements was the establishment of a Residential Airconditioning Training Course, held on five Monday nights starting March 1, 1954. The course was conducted by Joseph C. Greyson, a member of the faculty staff at both Temple and Villanova Universities, and an authority on airconditioning. Fifty-nine enrolled in the course, and attendance averaged about 92%.

During the Oil Heat Institute of America's National Indoor Comfort Exposition in Philadelphia last May, the Association occupied a booth and ran a series of 200-line advertisements in the Philadelphia newspapers to publicize the Show. In addition, the Association placed dashboard cards on 800 street cars on selected lines, and supplied dealers throughout the territory with display cards for windows and showrooms.

The advertising program was developed and sponsored by the major oil companies and the Philadelphia Electric Co.

Another accomplishment was a successful Oilburner Clinic, under the direction of Rocco Infante, and limited to 25 enrollees. The school was sponsored jointly by the Association and the Dobbins Vocational Technical School.

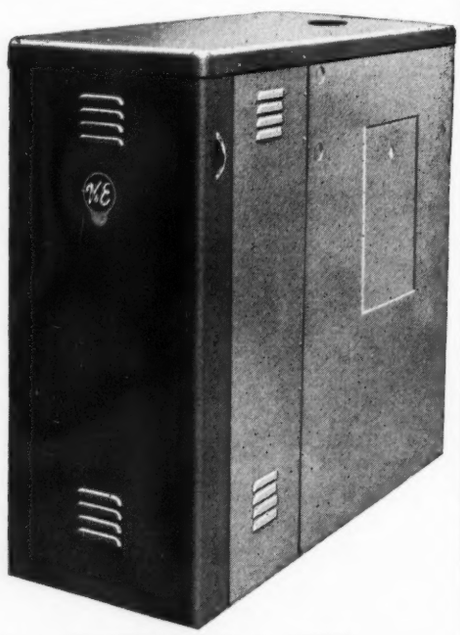
Sydney J. Bacal acted as chairman of the Oil Heat Division, while Thomas E. Russell held the post of chairman, Oil Heat Dealers Division. John A. Morrison is managing director of the Association.

BOOTH
137
at the

V&E
SCHUYLKILL HAVEN, PA.

OIL HEAT SHOW, STATLER HOTEL
BOSTON, JUNE 7-8-9-10

BOILERS and
BOILER-BURNER UNITS



All Models—

Steel Water-Tube Boilers

Fast Heating
AND Fast-Selling!

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Warehouses:
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Western Massachusetts Unit holds large open Meeting

THE LARGEST oil heating industry meeting ever held in Western Massachusetts took place April 26, sponsored by the Fuel Oil Council of Western Massachusetts, Springfield, Mass.

Robert Gray, editor of FUELOIL & OIL HEAT, was the guest speaker, and he discussed the present situation within the industry.

Open to every fueloil or oilheating dealer, the meeting was arranged by William Flood, and the group's executive committee.

South Carolina OJA sponsors management training School

IN COOPERATION with the University of South Carolina's Extension Division, the South Carolina Oil Jobbers Association held a Management Training Institute in Columbia, S. C., May 3-5.

Topics discussed included: "What Jobbers want to know," "Educational Extension," "Accounting—a Tool," "Comparative Advantages of corporate Partnership and individual Structure," "A uniform accounting System for Jobbers," "Credit policy," "Advertising Media and Methods," "Management and labor Relations," "The new Federal tax Law," "Estate Plan-

ning," and "Capital Planning."

Following the day-time sessions on both days, the evening period was devoted to special interest groups which discussed specific problems.

Seven Associations combine to form OHI of Long Island

AT A RECENT LUNCHEON MEETING at Cold Spring Harbor, N. Y., representatives of seven separate Nassau and Suffolk County, N. Y. Associations combined to form the Oil Heat Institute of Long Island, Hempstead, N. Y., in an effort to promote oilheating through a long range advertising-promotional-public relations program.

Although the immediate objective of the unit is to meet the threat of gas competition, long range aims include credit interchange, dealer and public educational activities, establishment of uniform codes on installations, grouping for benefits and the general discussion of industry problems.

Formation of the group resulted from efforts of the promotion committee of the Long Island Oil Terminals Assn. Close cooperation with the New York Oil Heating Association, OHI and the Oil Heat Council of New York is planned.

Open to fueloil dealers of all sizes, manufacturers and suppliers of oilburner equipment, and other interested parties, the group will have its headquarters at 285 N. Franklin St., Hempstead, N. Y.

APCA to hold Largest annual Meeting in Detroit, Mich.

THE FORTY-SEVENTH annual meeting of the Air Pollution Control Association, largest in the group's history, will be held at the Sheraton-Cadillac Hotel, Detroit, Mich., from May 22 through 26, 1955.

Air pollution control experts from the United States and Canada will report on the latest findings in smoke abatement, air pollution measurements, odor control and new developments in abatement equipment.

Among the many panels and discussions will be a session devoted exclusively to smoke abatement, which will include a talk on problems in burning heavy oil.

Guest speaker for the Association's banquet, May 25, will be Dr. Kenneth McFarland, educational consultant and lecturer for General Motors Corp.

Producers' Council Unit to travel throughout Nation

A NEW TRAVELING EXHIBIT to tour the nation displaying building products has been planned by Producers' Council, Inc., Washington, D. C., association of building products and manufacturers.

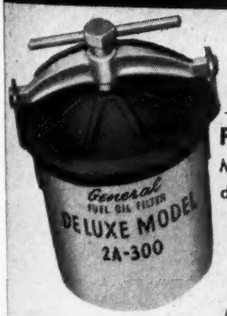
The show, to be known as the Caravan of Quality Building Products, will begin its tour next September, and will feature approximately 50 exhibits covering all types of building materials.

Built and managed by the General Exhibits and Displays Co., Inc., Chicago, the unit will be transported in a specially fitted van and will be exhibited in 36 cities.

(*Please turn to page* 162)

General-ly Speaking:

PROFITS WERE NEVER BETTER!



General
FUEL OIL FILTER
Model 2A-300 for big, dirty jobs.

General
FUEL OIL FILTER
Model 2A-700 for average size jobs.

General
FUEL OIL FILTER
Model 1A-25 for small jobs.

Over a million GENERAL FUEL OIL FILTERS have been sold since General introduced America's *first* domestic fuel oil filter in 1939: A million individual profit possibilities at the time of the initial sale . . . An *additional* million sales leads *each year* in the form of seasonal cartridge replacements!

No wonder heating contractors are saying *profits were never better.*

The Original Domestic Fuel Oil Filter

Every oil burner . . . every service call . . . every oil delivery provides a potential additional sale — when you stock and *sell* fast-moving Generals. They're available in three popular models — so there's always one to fit the job. If you're not already profiting from the General line, ask your jobber about details.

CLEAN RIGHT SOOT REMOVER

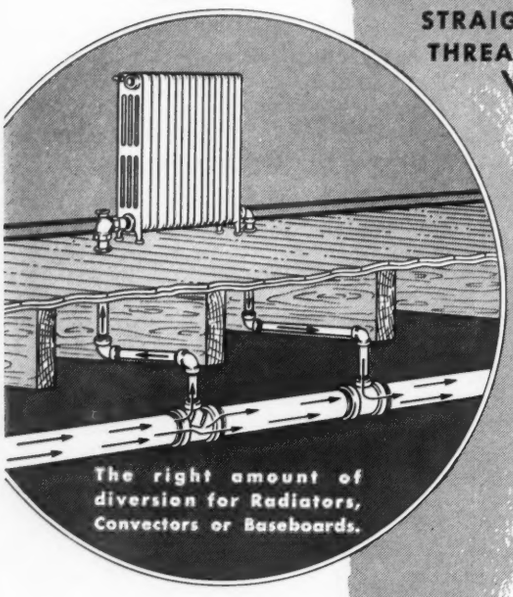
is a profit-maker, too! For any type heating plant. Burns without flash or intense heat. Made for General Filters, Inc.

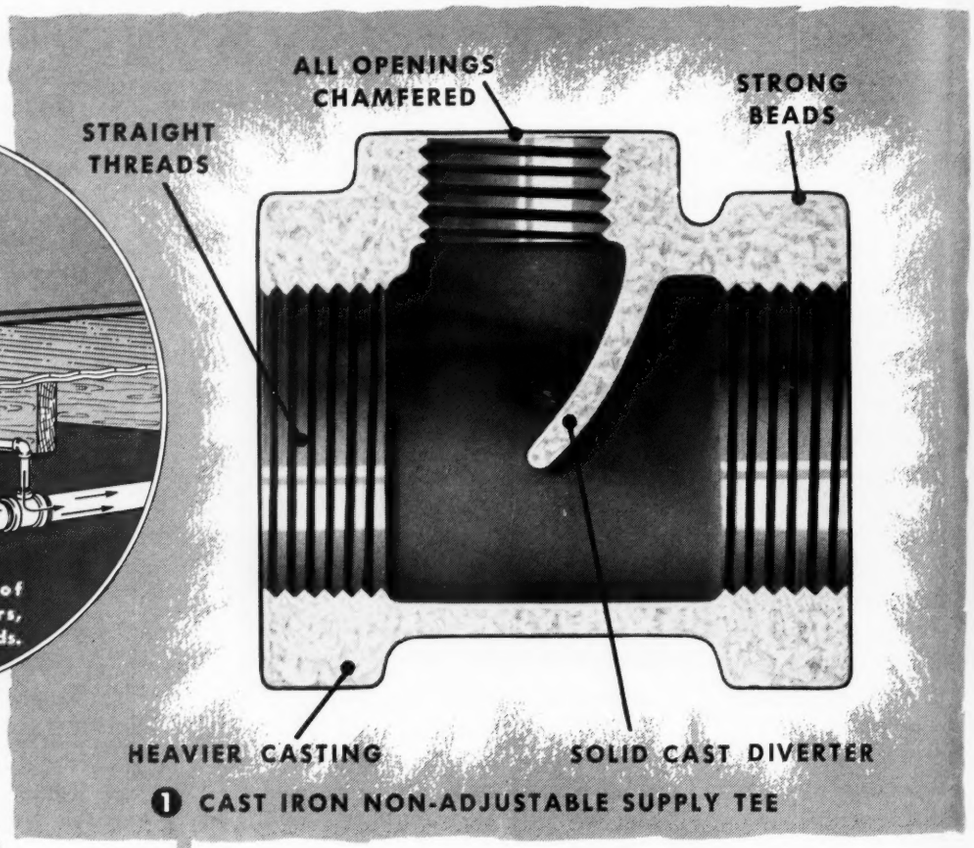
General Filters carry this Underwriters' Laboratories Seal

GET THE HABIT!
Replace Every General Cartridge You Sell— At Least Once Each Year.

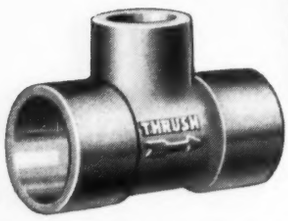
GENERAL FILTERS, INC.
43800 GRAND RIVER AVENUE • NOVI, MICHIGAN
Canadian General Filters, Ltd. • 39 Crockford Blvd. • (Scarboro) Toronto, Canada

LOW COST FORCED HOT WATER HEAT!



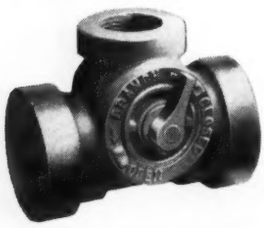


❶ CAST IRON NON-ADJUSTABLE SUPPLY TEE



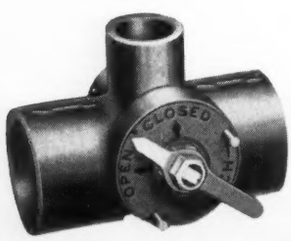
❷ **BRONZE NON-ADJUSTABLE SUPPLY TEES**

Solder fittings for one-pipe systems using copper pipe. They are accurately made in a complete range of needed sizes.



❸ **CAST-IRON ADJUSTABLE SUPPLY TEES**

for iron pipe installations. Easy to adjust, permit accurate control of flow to radiators. Simplify balancing on one-pipe systems. Complete range of sizes.



❹ **BRONZE ADJUSTABLE SUPPLY TEES** for copper pipe installations have solder connections and the same adjustable feature as the cast iron tees. Permit accurate diversion to each radiator or convector.

THRUSH

One Pipe SUPPLY TEES

Thrush Supply Tees are low in cost but high in quality and workmanship. Precision machining assures straight, uniform piping. The cast iron tee shown above is scientifically designed to divert the right amount of water to the radiator in a one-pipe system. The diverter is an integral part of the casting.

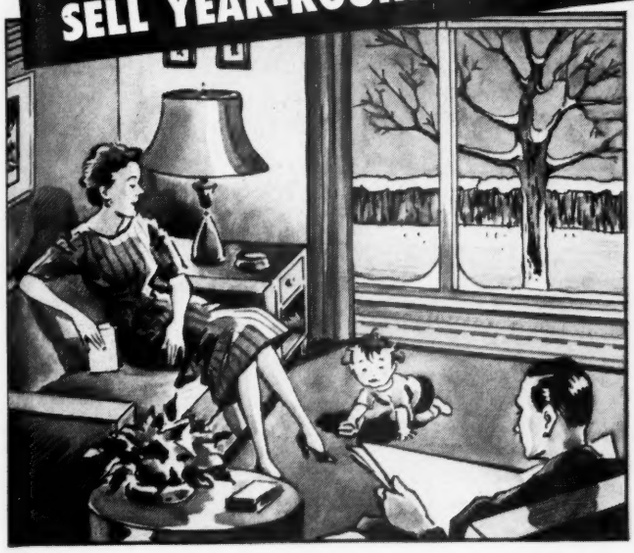
Adjustable Supply Tees shown below at left permit perfect balancing of all radiators in a one-pipe system. The handy lever can be set easily to control the output of each radiator. The flow of water through the main is increased, not throttled.

Thrush Tees save time and labor . . . and assure a better job for your customer. See your wholesaler today or write Department C-5 for more information.

H. A. THRUSH & COMPANY
PERU, INDIANA

Profit Twice!

SELL YEAR-ROUND COMFORT WITH BURNHAM EQUIPMENT



WINTER COMFORT

SUMMER COMFORT

Profit No. 1...

BURNHAM BASE-RAY*

RADIANT BASEBOARD

BASE-RAY, in a forced hot water system means winter comfort at its very best — the evenest, cleanest, most draft-free heating method known . . . the true radiant heat from BASE-RAY cast-iron units penetrates every corner . . . makes a home truly a cozy haven from winter's chill. Offer your customers this cold weather blessing . . . connected with an efficient, automatic, cast-iron Burnham Boiler . . . and you'll make Profit No. 1. BASE-RAY gives *quiet* comfort, too. There are no expansion noises and no "pings." Easy installation and absence of venting problems work in your favor. And with this Burnham lifetime equipment you can also provide plenty of domestic hot water the year 'round. It will make you friends as well as profits.

*Reg. U.S. Pat. Off.

Profit No. 2...

BURNHAM HIDE-AWAY

CENTRAL COOLING EQUIPMENT

This new, modern HIDE-AWAY tucks away out of sight in closet, attic, cellar or utility room . . . a summer blessing for your customer that will make you Profit No. 2. HIDE-AWAY cools, dehumidifies, filters and circulates the air . . . four points that are musts for summer comfort. Operation is economical, too . . . HIDE-AWAY requires *no water* and will cool all or a few rooms as desired with a minimum of duct work. For instance in a one-story house *a central closet installation may serve all rooms* without ducts. HIDE-AWAY is a perfect unit for new or modernization jobs, so easily installed. »»»Sell this Burnham "Comfortizing" combination for *year 'round living comfort* . . . your customers will thank you for years to come . . . and you'll make a double profit to boot.

HIDE-AWAY is as easy to install as any heating system . . . no complicated engineering. Write for the Burnham Cooling Manual with its easy-to-follow installation instructions.

BURNHAM CORPORATION
Irvington, New York

BASE-RAY
Only 7" high, 2" deep. Inconspicuous. Improves all interiors.

Burnham

HIDE-AWAY
3 sizes — 1 ton, 1½ tons, 2 tons. Occupies only 6 sq. ft. of floor space.

A Burnham Boiler for Every Purpose

PACE-PAK ®

PACEMAKER ®

YELLO-JACKET

GAS BOILER

PACE-KING

Burnham Corporation
Irvington, New York

FO-55

Please send booklets giving full information on
☐ BASE-RAY ☐ HIDE-AWAY Cooling Equipment

Name .....
Address .....
City ..... State .....

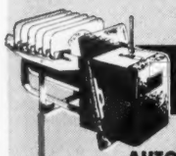
Fueloil & oilheat

Easiest of All to Install!

Auto-flo FUEL OIL FILTER

HEXAGON EXTENSIONS designed for EASY INSTALLATION of OIL LINE FITTINGS

More features means better heat for your customers—more profits for you. Double filter provides positive protection against clogged nozzles. One piece construction, with reinforced bolt spud, guaranteed permanently rustproof. Trouble free design eliminates callbacks and insures customer satisfaction. Use Auto-Flo Oil Filters on every installation — gravity or pressure type burners.



ASK YOUR WHOLESALER ABOUT THE . . . Auto-flo "100" AUTOMATIC HUMIDIFIER

AUTO-FLO CORP., 14590 Schaefer, Detroit 27, Mich

Please send me full information on:

☐ Auto-Flo Fuel Oil Filter

☐ Auto-Flo "100" Automatic Humidifier

Name_____

Address_____

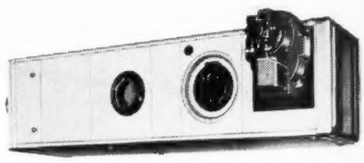
City_____ Zone_____ State_____

New Products

Each New Products item has an identifying number. If you want more information on any equipment described here send the coupon on page 160 to FUELOIL & OIL HEAT, *2 West 45th St., New York 36, N. Y., and identify the product by circling its number on the coupon.*

Henry Furnace Co. adds commercial Unit for suspended Installations

A COMMERCIAL-INDUSTRIAL size, horizontal, oilfired furnace for suspended installations has been added to the Moncrief line of Henry Furnace Co. Firing at a rate of 2.0 gal., the Py-224-E achieves an output rating of 224,000 Btu at the bonnet. It features a cylindrical heat exchanger and has a high-pressure gun-type burner. The unit utilizes 20" x 25" filters in 28" x 28" air intake and discharge openings. Forced air circulation is supplied by a 12" blower, powered by a ½ hp motor and operating at 2800 C.F.M.



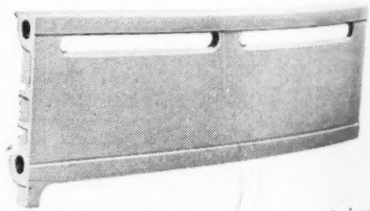
The unit is shipped in two sections. The section containing the heat exchanger is assembled at the factory. Both sections are fastened together as a single unit and suspended from pipe fittings from either the top or bottom of the unit.

Made by: The Henry Furnace Co., Medina, O.

Circle E1 on coupon, page 160

Weil-McLain Baseboard for high heat Input is made of cast Iron

THE WEIL-MCLAIN No. 9 cast iron baseboard provides capacity for high heat input where building design or exposure conditions require it. Rated at 3.35 sq. ft. per lineal foot, the installed height and width are 9¾" x 2¼". The baseboards are available in 6" increments, permitting



Complete Fool-Proof Air Elimination *from hot water heating systems!*

End air troubles and costly call backs! Team the TACO Air-Scoop with the TACO-Vent on every hot water heating installation. The rugged one-piece cast iron Air-Scoop removes air from mains and risers, the famous TACO-Vent from radiators. It's the sure way to protect your profit, the fool-proof way to remove air!

Manufactured Under Rigid Quality Control

TACO HEATERS, INCORPORATED
1160 Cranston Street, Cranston 9, R. I.

CORPORATE OFFICE
342 Madison Avenue
New York 17, New York

IN CANADA
Taco Heaters of Canada, Ltd.
4 Gilead Place, Toronto 2

Taco

Better Heating –
Better With TACO!

fueloil & oilheat

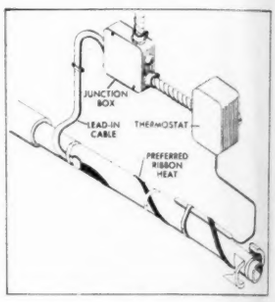
more complete utilization of wall space. Legs on end-sections position baseboard against wall and prevent sagging. They are shipped assembled in lengths of 6 ft. or less, ready to install. A complete line of metal trim is provided.

Made by: Weil-McLain Co., Blaine St., Michigan City, Ind.

Circle E2 on coupon, page 160

Preferred Ribbon Heat keeps residual Fueloils pumpable

PREFERRED RIBBON HEAT is a low temperature, lineal heater in the form of ½" wide and 1/10" thick flexible tape, designed for electric heating of suction lines carrying No. 6 oil from tank to the pump and heater. The tape contains special fusible alloy resistance wires, braided, insulated and protected for continuous use under all service conditions. It can be added to existing, or installed on new jobs.



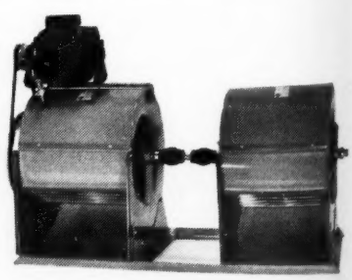
The end of the tape is attached by a waterproof connection to a 3 ft. non-metallic, sheathed cable and then to the electric supply. A thermostatic sensitive bulb controls operation. Ribbon Heat is intended to keep residual fueloils pumpable during burner shutdowns or out-of-service periods.

Made by: Preferred Utilities Mfg. Corp., 1860 Broadway, New York 23, N. Y.

Circle E3 on coupon, page 160

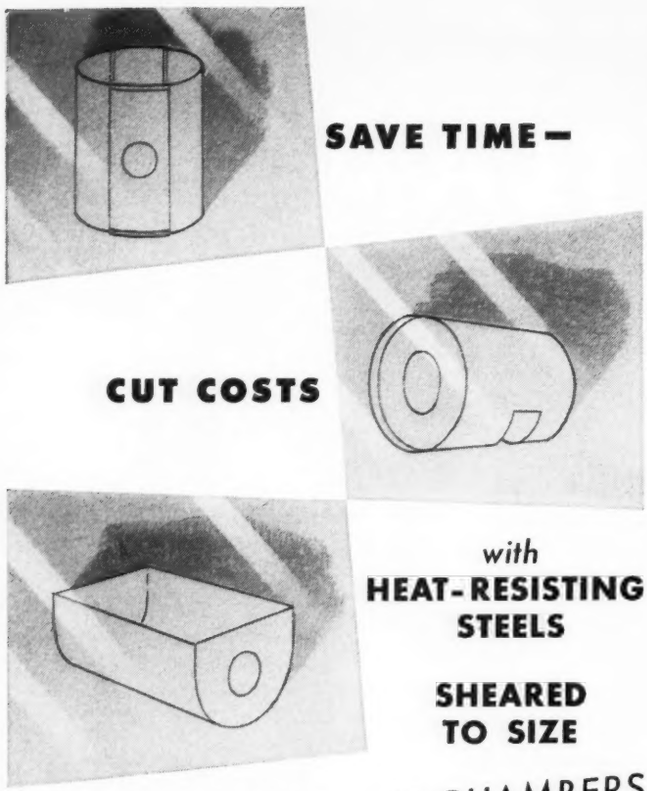
Lau Blower Co. introduces dual Econo-Pak industrial Blower

FOR THOSE INSTALLATIONS where it is impossible to mount one large blower but necessary to have increased air flow, Lau Blower Co. has introduced a dual Econo-Pak blower. By joining two standard Econo-Pak blowers together, air flow can be increased within the same height but with greater width. Housing supports and hardware are furnished. Since the purchaser can direct the air flow at any angle he adds angle rails, two flexible couplings and make up shaft exactly as he wishes. Five different standard pulley combinations are available, providing a speed range from 385 rpm to 888 rpm per blower.



Made by: Lau Blower Co., Dayton, O.

Circle E4 on coupon, page 160



SAVE TIME—

CUT COSTS

with HEAT-RESISTING STEELS

SHEARED TO SIZE

for your COMBUSTION CHAMBERS

In more ways than one, it pays to specify Ingersoll heat-resisting stainless steel for your oil burner combustion chambers.

Ingersoll heat-resisting stainless has exceptional forming qualities—so it's easy to fabricate. Its analysis is correct—to withstand high temperatures. It's made by specialists—so you know it's made right.

Whether you use these steels in large or small quantities, Ingersoll facilities offer exceptional service by custom shearing to your own specified combustion chamber blanks, or multiples thereof.

Advantages
OF HEAT-RESISTING STEELS

★ *No breakage in shipment or handling*

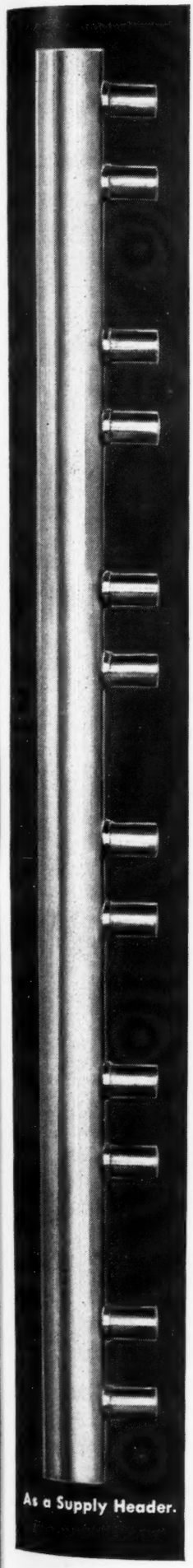
★ *Lighter weight lowers freight costs*

★ *Quicker heating—greater efficiency*

Write, wire or phone for details

ENGINEERING B-W PRODUCTION

Ingersoll
STEEL DIVISION
Borg-Warner Corporation
310 S. Michigan Ave., Chicago 4, Illinois
Plant: New Castle, Indiana



As a Supply Header.

With
New
DUNHAM
DISTRIBUTOR HEADS
You Save Time on the Job
...Simplify Stocking

You're money ahead when you work with this versatile Dunham Distributor Head . . . designed for easier installation of both radiant panel and "spaghetti" type hot water heating systems.

You Save Time when you handle Dunham Distributor Heads because they are so simple to cut right on the job to any desired length . . . using up to 14 pairs of connections. These 1¼" nominal Distributor Heads come in convenient 5′ 3" lengths.

You Simplify Stocking Problems, too, since Dunham Distributor Heads can be used for either supply or return; with both ⅜" and ½" balancing fittings as shown in the right-hand photograph. This eliminates the bother of stocking separate supply and return heads, each having varying sizes and number of connections.

Dunham Balancing Fittings team up with Distributor Heads to give tight shutoff and graduated control from full open to any degree of closure. For full information on the complete Dunham hot water line, clip and mail the coupon.

DUNHAM® **HOT WATER HEATING**

RADIATION • CONTROLS • UNIT HEATERS • PUMPS • SPECIALTIES

QUALITY FIRST FOR OVER FIFTY YEARS

C. A. DUNHAM COMPANY • CHICAGO • TORONTO • LONDON

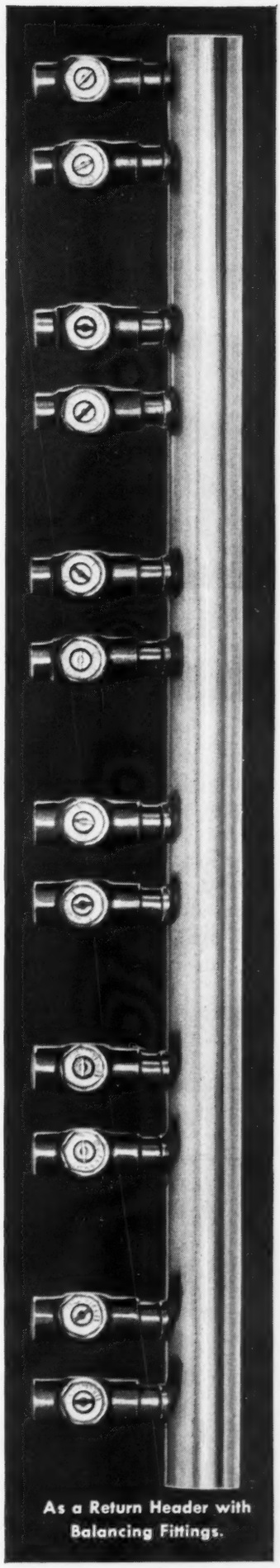
C. A. DUNHAM COMPANY
Dept. FOH-5, 400 W. Madison St.,
Chicago 6, Illinois
Please send Vari-Temp literature

Name_____

Firm_____

Address_____

City_____ Zone____ State_____



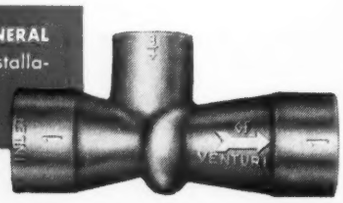
As a Return Header with Balancing Fittings.

Look for the GF ... it Spells Quality!

GENERAL
"TESTITE"
Solder Fittings

You just can't beat GENERAL Cast Bronze Solder Fittings! They're quality from start to finish! Clean, bright, precision sockets . . . rugged, pressure-tested construction . . . lasting top performance. Available in all the popular sizes of ells, tees, adapters, couplings, unions, and reducing tees — *plus* the famous "specials" shown below. Send for folder. General Fittings Co., Box 151C, East Greenwich, R. I.

Low-Cost, Top-Quality GENERAL Venturi Diverter speeds installation of single-pipe hot water radiation systems.



GENERAL "Special-Tee" Vent-or-Drain Fitting comes ready-to-install on fin-tube, baseboard radiator systems.

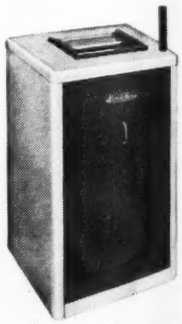
GF

GENERAL FITTINGS
COMPANY

TANKLESS AND INDIRECT
WATER HEATERS AND HEATING SPECIALTIES

Anchor Post's Airconditioner is hermetically sealed at Factory

TO MAKE ITS NEW airconditioner as trouble-free as a home refrigerator Anchor Post Products has entered the airconditioning field with a hermetically sealed unit. Called the "Fluidaire" and made by the Fluid Heat Div., the cooling unit's evaporator coil is installed in the supply plenum thus eliminating the necessity for extra duct work and dampers. The condenser is air-cooled. The unit utilizes the furnace blower and air distribution system and can be installed at the time the furnace is put in or any time thereafter. A flexible five-foot refrigerant hose permits leeway in placement and simplifies installation.



Made by: Fluid Heat Div., Anchor Post Products, Inc., Baltimore, Md.

Circle E5 on coupon, page 160

Delavan announces hand model liquid fertilizer spray gun

AN ALL ALUMINUM and stainless steel hand Spra-Gun has been developed and field tested by Delavan Manufacturing

Donna Reed, *movie star, poses with the Unarco-Whitehall mobile airconditioner, model MA 100. The airconditioner does not require window installation and can be plugged into any electrical circuit.*

Distributed by Whitehall Engineering Co., 1630 S. Michigan Ave., Chicago 16, Ill.

Circle E6 on coupon, page 160

FLASH!

The JUNE ISSUE is our Official Show Number for THE EASTERN Biennial EXPOSITION of OIL HEAT. In order to get distribution to the area from which this Important Event will draw attendance ahead of the show opening, the Ad Closing day for the June Issue IS BEING MOVED UP 2 DAYS, to —

MAY 18

If you are advertising and getting all the usual Good Values in this June Issue PLUS the SHOW ISSUE INTEREST, please alert all who handle the ads — Agencies, Engravers, Artists, etc. — about this date. Thanks!

Advertising Department

2 West 45th St., New York 36, N. Y. • (MUrray Hill 2-4786)
A. G. WINKLER, *Adv. Mgr.* **LEE STEEDLE, *Ass't. Adv. Mgr.***

Midwest:—
Jack Metzel, 224 So. Michigan Ave., Room 200, Chicago 4 (WAbash 2-9548)

Michigan-Ohio:—
Jim Becker, 177 No. Main Street, Oberlin, Ohio (OBerlin 4-2814)

Pacific Coast:—
Don Harway, 1709 W. 8th St., Los Angeles 17, Calif. (DUnkirk 2-8576)

Guarantee

Carefree Fuel Supply in Oil Burner Sales

with combination

VENTALARM® GAUGE

Underwriters' Approved

The famous whistling tank fill signal and easy reading gauge in one money-saving unit. Goes on tank as integral part of vent pipe. Signal case takes the place and saves cost of reducer bushing. One less tank opening needed. One item to install instead of three.

Specify tank depth and opening when ordering.

"BUTTON-LIFT" INSTALLATION

Lifting the button indicator draws cork arm up close to main shaft for easy installation even in partly filled tanks.

or the

SCULLY® GAUGE

Underwriters' Approved

A modern convenience in every way. Big figures, adjustable face, jam-proof lever arm, cork float. Accurate service-free operation.

Specify tank depth when ordering.

and the famous

VENTALARM

T. M. REG. U.S. PAT. OFF

WHISTLING TANK FILL SIGNAL

Accurate fuel oil delivery without home entry. Truly *automatic* fills for the householder. Makes oil supply as clean and convenient as any other fuel.

A variety of models for new and old tanks.

"Just fill while the whistle blows."

Scully Products are manufactured under U.S. and foreign patents or patents pending.

See your regular Supply House.

SCULLY SIGNAL COMPANY

174 Green St., Melrose 76, Mass.

MEMBER OHI HEAT INSTITUTE OF AMERICA

Canadian Licensee: EMPIRE BRASS MFG. CO., LTD., London, Ontario

Co. It has been especially designed to resist the corrosive action of liquid fertilizers. The Spra-Gun comes in two sizes: the 24" gun weighs 25 ounces and the 12" gun weighs 15 ounces. The gun sprays from a soft mist to a solid stream and is controlled by a twist handle.

Made by: Delavan Manufacturing Co., West Des Moines, Ia.

Circle E7 on coupon, page 160

Styling of Honeywell "Round" is improved; Features added

REDESIGNED AND IMPROVED electronic home temperature control system incorporating an electronic thermostat is called the "Golden Circle" by Minneapolis - Honeywell Regulator Co. It is a refinement of the "Round." A slender gold disc two and three-eighths inches in diameter and it is mounted in the conventional thermostat location and works with an outdoor temperature sensing element and a "brain" control center to adjust indoor to outdoor weather changes. The control center operates on a 24-volt circuit and is supplied with a transformer and 15 ft. of cable with a remote terminal bloc.

Styled by industrial designer Henry Dreyfuss the new thermostat is available in two models and three different control centers. Two of the systems provide for automatic night temperature setback and include an electric clock which is mounted on the face of the control center.

Made by: Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.

Circle E8 on coupon, page 160

Line of Rockwell Rotocycle Meters introduced for liquid Fertilizers

ALL-FERROUS Rotocycle meters designed for metering low pressure liquid fertilizers such as aqueous ammonia and ammonium phosphate have been introduced by Rockwell Manufacturing Co. The cast iron meters are available in 2, 3, 4 and 6 inch bulk type models and also 2 and 3 inch tank truck models.

They can operate at flow rates ranging from 20-800 gpm. A complete line of all-ferrous accessories, including air eliminators, strainers and shock proof quantity control valves, is also available for use with the meters.

Made by: Rockwell Manufacturing Co., 400 N. Lexington Ave., Pittsburgh, Pa.

Circle E9 on coupon, page 160

Add dieldrin to your liquid fertilizer

...add dollars to your profit!

One-shot treatment kills lawn-destroying insects both above and below the ground.

Acclaimed "a miracle bug killer" by Coronet Magazine (April, 1955), dieldrin is America's Number One lawn insecticide.

Dieldrin kills chinch bugs, Japanese beetle grubs, June beetle grubs, ants, mole crickets, cutworms, and many other lawn destroyers. *Fuel oil distributors* from coast to coast are adapting their trucks to apply liquid fertilizer to home lawns during the summer slack season. By adding dieldrin to their liquid fertilizer, they provide an additional service for their customers . . . and add dollars to profits. Dieldrin is easy to use—tailor-made for fertilizer application. Simply add liquid dieldrin to your fertilizer according to label instructions.

Dieldrin is being pre-sold to your customers through timely, nation-wide advertising in Better Homes & Gardens, Saturday Evening Post, Business Week, U. S. News, and Fortune. In addition, Shell window streamers, mailing pieces and other promotional material are available to help you build sales.

Dieldrin is available anywhere in the United States from well-known insecticide suppliers. They'll be happy to assist you with latest information on dieldrin and its application. Send the coupon for further information and the name of the formulators in your area.

Rush this coupon for complete details— Do it today!

SHELL CHEMICAL CORPORATION
380 Madison Avenue
New York, New York

Gentlemen: Please send me complete information.

Name_____

Firm_____

Address_____

City_____

Zone_____ State_____

SHELL CHEMICAL CORPORATION

AGRICULTURAL CHEMICALS DIVISION
380 Madison Avenue, New York, New York

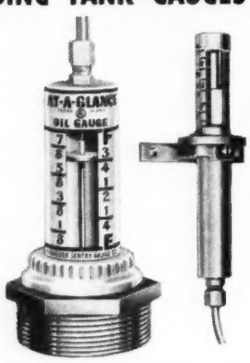
fueloil & oilheat

INCREASE EQUIPMENT SALES
...cut down delivery costs
Sentry ODF* Tank Gauge tells drivers what they want to know
at point of delivery!
"THAT LITTLE SENTRY GAUGE SURE SAVES US BOTH A LOT OF TROUBLE!"
TELLS WHEN OIL IS NEEDED
*Oil Dealer's Friend
...HOW MUCH IS NEEDED
...WHEN TO STOP FILLING
STOP FILLING
Sentry "ODF" remote reading gauge

ONLY *Sentry* OFFERS SUCH A COMPLETE LINE OF DIRECT AND REMOTE READING TANK GAUGES

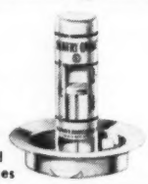
Above is SENTRY'S newest — The ODF At-A-Glance tank gauge that's setting new records in building sales and customer goodwill. Located outside of building at fill pipe, this easy-to-read weather-proof gauge shows the exact oil level in the indoor tank. Saves costly time consuming trips to basement, unnecessary hose unreeling and eliminates over-flow. Permits delivery without disturbing customer.

Other constant-register SENTRY gauges include combination tank and remote reading, barrel gauges, direct reading, and gauges for stove and space heater tank. Write today for full information about these fast moving business getters. Advertising aids available.



Combination At-A-Glance tank and remote reading gauges

Sentry stove and space heater gauges


Sentry At-A-Glance barrel gauges

Sentry At-A-Glance tank gauge

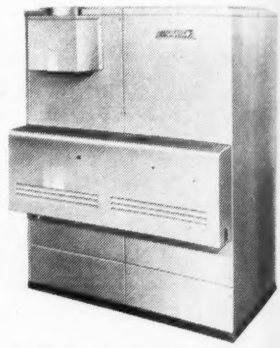
Sentry superior quality Therma-Gauge

On guard— 24 hours a day

KRUEGER *Sentry* GAUGES
GREEN BAY • WISCONSIN

Mueller Climatrol announces combination Heating-Cooling

MUELLER CLIMATROL has introduced a combination heating and cooling unit, available in automatically-fired models with a 100,000 Btu/hr warm air heating unit and 2 or 3 hp Worthington cooling components. The units may be ordered separately, so that both heating and cooling need not be installed at the same time. Cooling cycles, mounted on frames, slide in position in the furnace casing, while a specially-designed b a c k d r a f t damper can be manually operated or motorized.



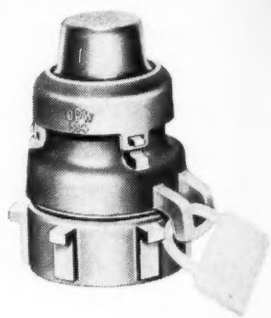
Over-all the unit measures 59¾" high, 47-5/16" wide and 28½" deep, plus the burner. An 11" blower is used for air distribution and, while the cooling cycle is designed for water operation, it may be converted to an air cooled model with a Climatrol remote compressor.

Made by: Mueller Climatrol, 2005 W. Oklahoma Ave., Milwaukee, Wis.

Circle E10 on coupon, page 160

Combination vent-fill Cap by OPW eliminates Loss by Evaporation

OPW CORP. has brought out a combination vent-fill cap that will eliminate vapor loss from above ground storage tanks. A three-pound pressure poppet assures protection against evaporation. The one-ounce vacuum loading allows rapid withdrawal of liuqid. The cap is available in one-pound pressure. Full 1½" pressure area provides emergency venting which prevents bursting caused by ex treme heat or rapid increase of atmospheric temperatures. Full ½" vacuum area prevents buckling or collapsing of tanks caused by sudden temperature drops. The body is of hi-tensile aluminum alloy construction with a cadmium plated steel dome.

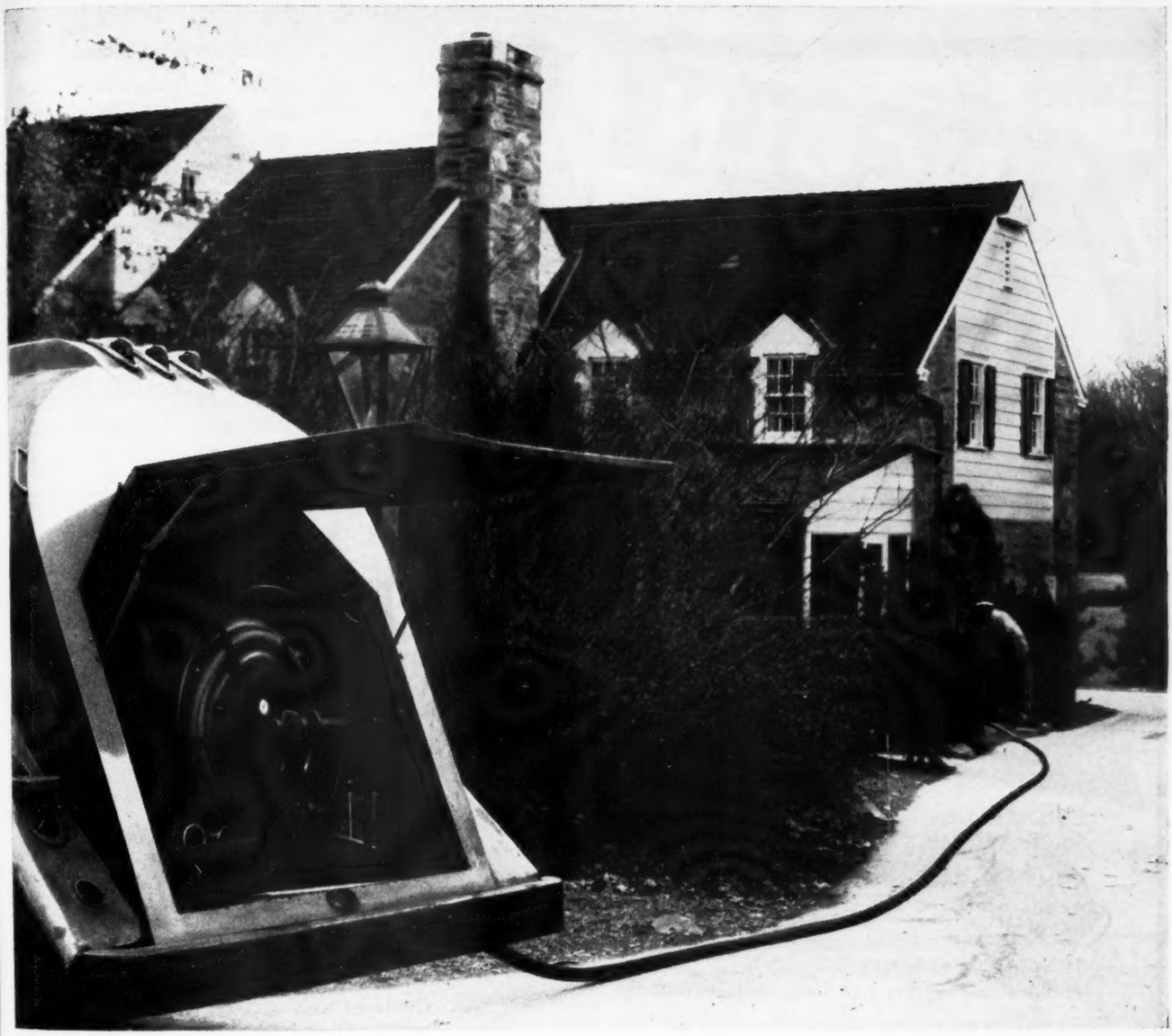


Made by: OPW Corp., 2735 Colerain Ave., Cincinnati, O.

Circle E11 on coupon, page 160

Trane wall line Convectors are designed for commercial Heating

A WALL LINE convector, designed specifically for modern institutional and industrial buildings with bands of windows, has been deevloped by Trane. Sloping topped cabinets enclose a high capacity heating element of seamless



Zero Temperatures Mean Nothing to This Hose

Winter's coldest extremes won't affect this rugged Quaprene-Fuel King oil hose. It will give you long use under severe service conditions for conveying fuel oil or distillates from tank wagons to home storage tanks. It is equally efficient for conveying paints, turpentine and other solvents. Can also be used for conveying high octane gas for refueling aircraft. Its synthetic rubber tube is unharmed by those materials that would attack ordinary hose.

This hose resumes its normal shape even if it is flattened . . . that's because of its extra-tough, moulded braided construction. Reinforcement consists of multiple braids of high tensile cotton yarn, with a built-in, spirally-braided copper wire for constant static bond. The cover is of a Neoprene compound that offers maximum resistance to oils, abrasion, sunlight and weather.

Quaprene-Fuel King is available in I.D. sizes 1″, 1¼″ and 1½″, with reattachable or non-reattachable, full-flow couplings.

We also manufacture a complete line of industrial rubber products: belting, hose, packing and moulded rubber of every construction for every need. *Through your Quaker and Quaker Pioneer distributor* our research and engineering services are always available to help you solve any industrial rubber problem. *Write for free folder and name of nearest distributor.*

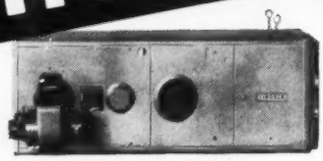
QUAKER RUBBER CORPORATION
Philadelphia 24, Pennsylvania

A DIVISION OF **HKP** H. K. PORTER COMPANY INC. OF PITTSBURGH

QUAKER PIONEER RUBBER MILLS
San Francisco 7, California

Switch to—

LINCOLN



Suspended Units

Lo-Boy Units

Hi-Boy Units

Gas-Fired and Oil-Fired Furnaces and Air Conditioners

COMPLETE LINE — size ranges from 75,000 to 150,000 B.T.U. output at bonnet.

COMPLETE PACKAGE UNITS — factory wired, assembled and tested — ready to install.

10 YEAR WARRANTY — on both the combustion chamber and heat exchanger.

MAXIMUM HEAT TRANSFER — assured by high efficiency 12 gauge steel heat exchanger.

UL FULLY APPROVED — and acceptable by both F.H.A. and V.A.

SALES AND ENGINEERING ASSISTANCE — to help you land the sale, to help you with your installation problems.

COMPETITIVELY PRICED — every unit priced to sell quickly at a good profit.

Exclusive distributor and dealer franchises are available in certain desirable areas. Inquiries are invited.

WRITE FOR FULL INFORMATION

LINCOLN FURNACE Co., Inc.

MANUFACTURERS OF GAS & OIL FURNACES AIR CONDITIONERS

232 Goffle Road • Hawthorne, N. J.

copper tubing with mechanically bonded aluminum fins.

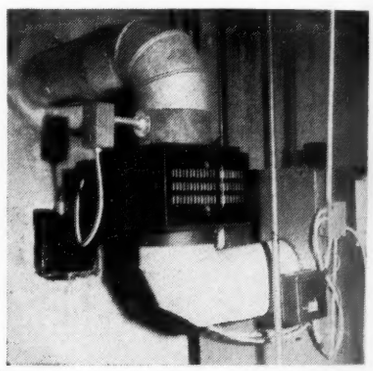
Available in 14", 20" and 26" heights and in lengths ranging from 2 to 6 feet in increments of 4" with cabinet depths at 4 and 6 inches, the convectors contain a screw adjustment fastened to the element support bracket to obtain proper pitch of the heating element.

Made by: The Trane Co., La Crosse, Wis.

Circle E12 on coupon, page 160

MP Research chimney Unit is stack heat Economizer

STAK-HEAT-XCHANGER is the trade name of MP Research's unit, designed for smokestack installation to reclaim heat from the flue gases. It consists of a series of 60 steel tubes, hermetically connected to a blower. Stack gases passing over the tubes warm them, so that the air which the blower forces through the tubes also picks up heat.



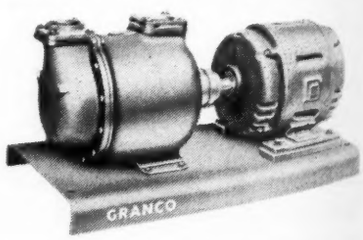
The reclaimed heat can be distributed directly into the basement, or may be conveyed by ducts to garages, attics or other rooms in the house.

Made by: MP Research Corp., 2 McKee St., Floral Park, N. Y.

Circle E13 on coupon, page 160

Granco Multi-Prime Pumps for tank Trucks or bulk Plants

GRANCO Multi-Prime centrifugal pumps are being offered in eight models: three truck models without gear increaser; three with 3 to 1 gear increaser and operating with right or left rotation and two models for bulk plant use. Capacities range from 120 to 200 gpm. Facilitating mounting, the pump is compact, with inlet and outlet flanges available in straight or elbow types. Can be installed at 45° angle, right or left, and, when belt driven, requires no outboard bearing.

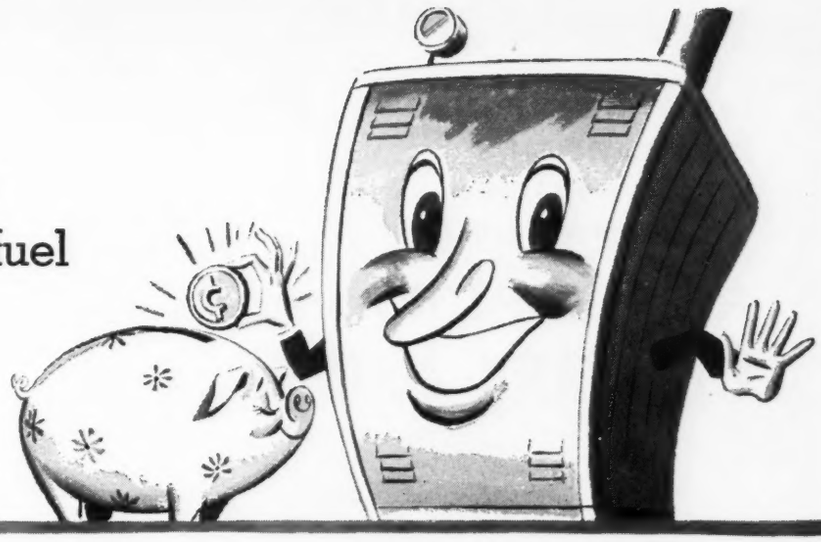


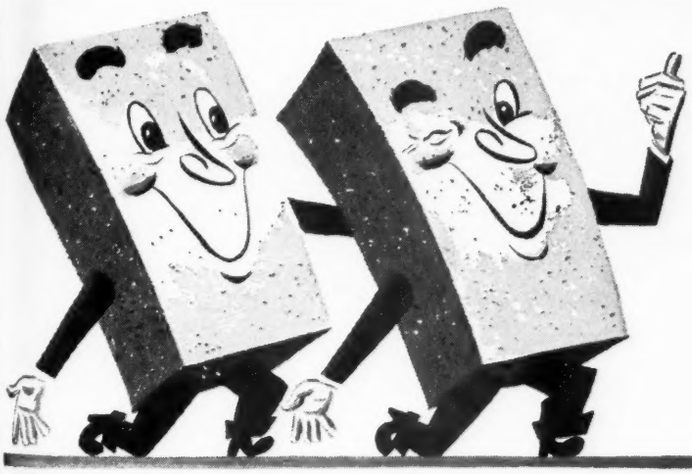
Granco's patented, rapid-priming impeller is standard equipment, incorporating accurately-machined open vanes and a number of radial orifices.

Made by: Granberg Corp., 1308 67th St., Oakland 8, Calif.

Circle E14 on coupon, page 160

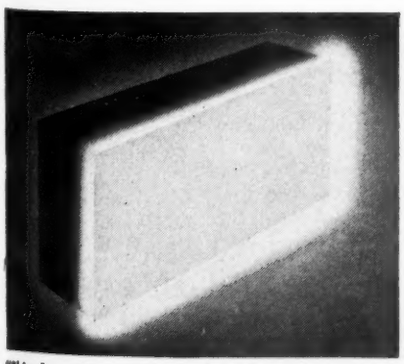
"Now I heat up faster and save money on fuel with J-M Insulating Fire Brick!"





"We knew our 'skin-heat-in-seconds' would get you on the job in a hurry!"

You can build better fireboxes with this insulating fire brick that saves up to 10% on fuel



"Skin-heat-in-seconds" of J-M Insulating Fire Brick is demonstrated in this photograph. Within seconds after the burner goes on, the entire inside surface of the firebox becomes white-hot. Laboratory tests prove that this brick can save up to 10% on fuel.

IT'S EASY to make *lifetime* customers by saving them up to 10¢ on every dollar they spend for fuel. *Just build their oil burner fireboxes with J-M Insulating Fire Brick that saves fuel by getting a skin-deep curtain of white-heat intensity within seconds!*

Customers will also appreciate the fact that J-M Insulating Fire Brick in their firebox results in far less soot, smoke, and odor. And its light weight, cellular construction contributes substantially to quieter oil burner operation.

You'll find it easy to install J-M Insulating Fire Brick. Cut them quickly with a hacksaw blade . . . use them to build any shape or size firebox specified by the oil burner manufacturer. Recommended brick for domestic oil burner fireboxes are JM-20, JM-23, JM-26. For industrial use . . . JM-28 and JM-3000.

See your J-M Distributor for further information about these brick that heat up faster and save more money . . . or write Johns-Manville, Box 60. New York 16, New York. In Canada, 199 Bay Street, Toronto 1, Ontario.

For sealing against gas and air leaks, use J-M FIREITE* Asbestos Furnace Cement. For lining hearths of rotary burners, use J-M STANDARD FIRECRETE* — a hydraulic setting refractory — ready for use in 24 hours.

*Reg. U. S. Pat. Off.

JOHNS-MANVILLE JM PRODUCTS

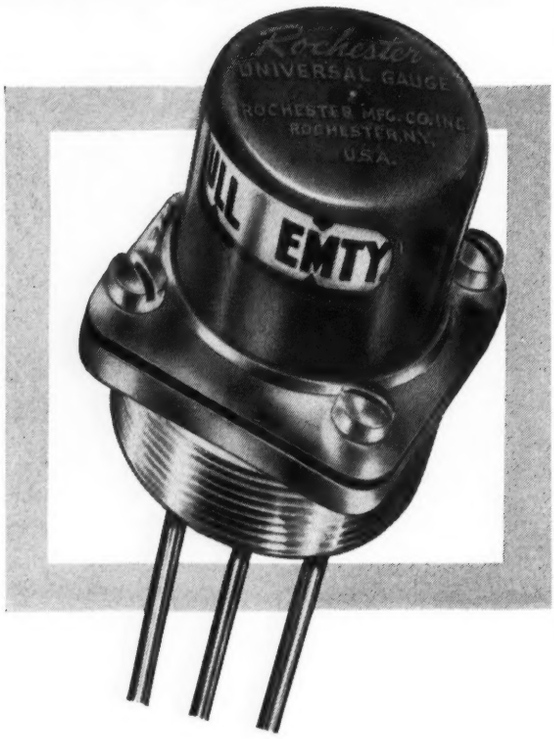
Johns-Manville INSULATING FIRE BRICK

For "Skin-Heat-in-Seconds" in Fireboxes

fuel oil & oil heat

WEATHER-PROOF
FUME-PROOF
LEAK-PROOF
FOOL-PROOF

* Rochester Universal
OIL TANK GAUGES



DON'T . . .

TAKE THE CHANCE OF RUINING A GOOD INSTALLATION... INSIST UPON HAVING THE BEST . . . YOU'LL BE GLAD YOU USED A ROCHESTER UNIVERSAL OIL TANK GAUGE.

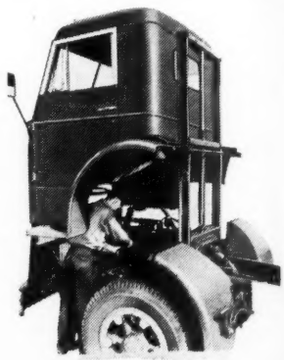
SOLD AT LEADING WHOLESALERS EVERYWHERE

1. The pressure tight head is sealed and weatherproofed so it can be used indoors or outdoors. Only one type gauge needed for any installation.
2. Head is hermetically sealed making it leakproof, dustproof, and absolutely shockproof.
3. There is no opening of any kind into the tank. The dial indicator works on a magnetic DRIVE, giving perfect reading at all times.
4. Safety factor far exceeds the requirements of the Underwriters. The model 3175 Gauge withstands tank pressure of 200 pounds per square inch.

Rochester
MANUFACTURING COMPANY, INC.
DIAL THERMOMETERS GAUGES AMMETERS
ROCHESTER DEPENDABLE ACCURACY GAUGES
Rockwood Street, Rochester 10, N. Y., U. S. A.

Cab-over-engine Trucks for fueloil Delivery are manufactured by Mack

MACK TRUCKS has started production of a cab-over-engine truck especially adaptable for fueloil delivery. Power lifts the cab vertically from the chassis to provide easy accessibility to the engine. Designated the D Cab-Forward series, the trucks will be manufactured in sizes from 20,000 to 28,000 lbs. gross vehicle weight and as tractors in the 40,000 to 53,000 pounds gross combination weight range.



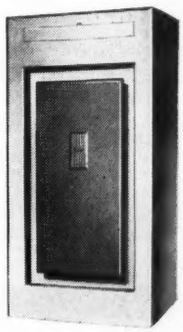
The specially engineered chassis distributes more of the load on the front axle. The windshield permits maximum driver visibility in all directions.

Made by: Mack Trucks, Inc., 350 Fifth Ave., New York, N. Y.

Circle E15 on coupon, page 160

Coleman has packaged cooling Unit for Stores, Restaurants, Offices

TWO COMMERCIAL self-contained cooling units have been added to the Coleman line and are available in three- and five-ton capacities. Adjustable louvers concealed in the top of the unit give one- to four-way, draft-free air circulation in installations where air ducts are not used. Return air is admitted to the filter and cooling coil through concealed slots in the front panel. Compressor, evaporator, condenser and all-refrigerant connections are hermetically sealed at the factory. Only three connections are required to operate: water supply, electricity and condensate drain.



Made by: The Coleman Co., Inc., Wichita, Kan.

Circle E16 on coupon, page 160

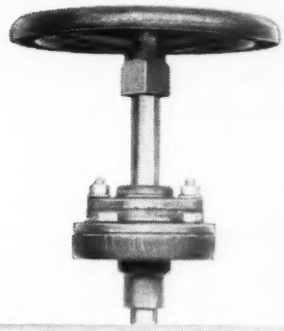
Betts pressure-lubricated Hinge designed for quieter oil Delivery

BETTS MACHINE CO. has designed a pressure-lubricated hinge that eliminates sagging, screeching and squeaking of access doors on oil delivery trucks. Called the Warren SSS Hinge, it is easily installed by welding or bolting door and frame. Its treaded pivot bearing harbors grease and eliminates end-play. A spring-loaded ball detent positions door in any one of three positions.

Made by: Betts Machine Co., 1800 Pennsylvania Ave., W., Warren, Pa.

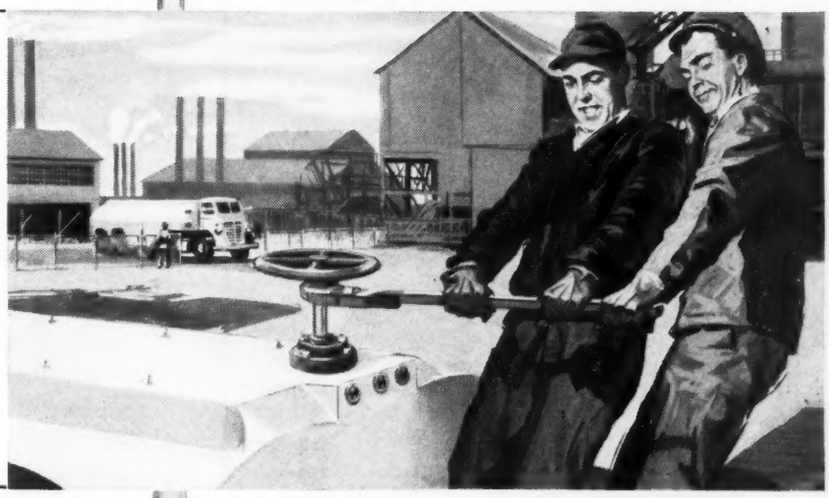
Circle E17 on coupon, page 160

A NEW UNBREAKABLE VALVE



FOR ASPHALT, RESINS AND SIMILAR PRODUCTS

NEW HI-STRENGTH PHILADELPHIA VALVES CAN BE FREED WITH A 36-INCH WRENCH WITHOUT DAMAGING THE VALVES



There are no weak links, no pins that will shear, no threads that will strip or shafts that will twist off, nor any other part that will fail under severe load conditions.

This valve was designed so that if the product solidifies it can be broken loose without ruining the valve. Two men pulling with a force of 100# each at the end of a 36″ wrench on the square hub on the wheel will not damage the valve. Under these conditions the screw exerts a force of 48,000# on the disc, either to open it or close it—a force which will break loose any product that has solidified. All parts are made of steel or manganese bronze with alloy steel bolts. A self-tightening stuffing box is provided at the top.

In spite of all these features, there is no unnecessary metal and weight in these valves. Specify Philadelphia Valves on your next asphalt tank and end your troubles.

New Hi-Strength Philadelphia Valves are made in 4″ and 6″ sizes for either internal or external installation.

PHILADELPHIA VALVE COMPANY

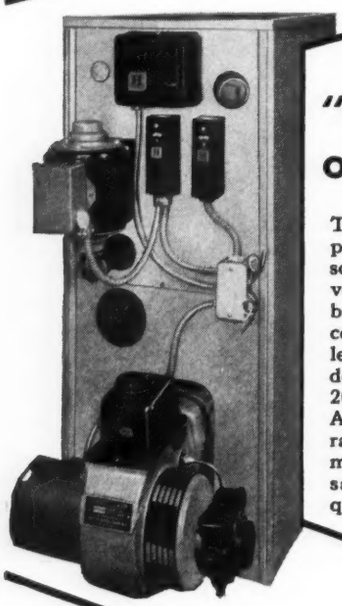
ARAMINGO AVENUE AND EAST TIOGA STREET, PHILADELPHIA 34, PA.

Pacific Coast Distributors:

Oil Marketing Equipment Company, 325 Fremont Street, San Francisco 5, California
Howard Supply Company, 5125 Santa Fe Avenue Los Angeles 11, California

PENN... FAMOUS FOR HEATING PACKAGE VALUES!

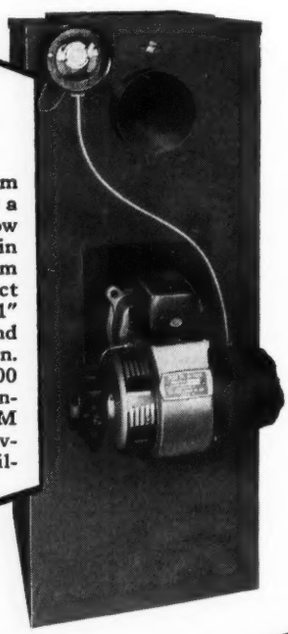
Completely Wired, Assembled and Ready to Operate



PENN "760" BOILER

Oil and Gas Fired

Top value in a complete package unit. Efficient square-type boiler with vertical fire tubes . . . with burner, circulator and all controls. Built-in tankless coil for year-round domestic hot water. 115,200 BTU gross rating. Approved by ASME, rated by SBI. Priced to meet competition without sacrificing Penn's high quality standards.



PENN LOW HI-BOY

Complete forced warm air unit . . . ready to do a real heating job at low cost. Equally efficient in basement or utility room installations. Compact . . . only 53" high, 21" wide, 18" deep . . . and easily carried by two men. Two models . . . 70,000 and 85,000 BTU (at bonnet) . . . with 700 CFM and 900 CFM air delivery. Both models available in counterflow.

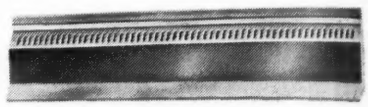
Investigate the PENN Line of heating and air conditioning equipment. Write Dept. FO-2 for complete information.

PENN BOILER & BURNER MFG. CORP.

LANCASTER, PENNSYLVANIA

Trico warm air Baseboards available in two Lengths

TRICO warm air baseboards are rated at 1,000 Btu per lineal foot and are offered in two sizes, one 2 ft. long, the other 4 ft. The baseboard measures 4¾" high x 2½" wide and tapers to ¾" at the top.



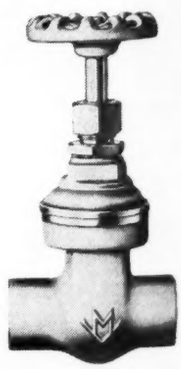
It features a damper which can be controlled by a chain, with provision made to splice the ends in order to lengthen the diffusers. Finished in prime beige coat.

Made by: Trico Baseboard Htg. Corp., P. O. Box 146, Pompton Lakes, N. J.

Circle E18 on coupon, page 160

Milwaukee Valve Co. adds brass type sweat gate Valve to Line

MILWAUKEE VALVE CO. has designed a brass sweat type gate valve for copper tube jobs. Model 1145 in Milvaco's line is a solder type valve for working pressures of 125 lb. steam, 200 lb. W.O.G. It comes in the following sizes: ⅜", ½", ¾", 1", 1¼", 1½" and 2". It is recommended for home or industrial heating systems and features a non-rising stem, solid wedge disc construction, and snug-fitting connections, uniform outlets and accurately machined moving parts.

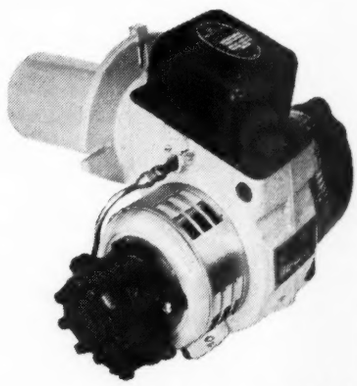


Made by: Milwaukee Valve Co., 2375 S. Burrell St., Milwaukee 7, Wisc.

Circle E19 on coupon, page 160

Nu-Way Corp. announces its new Series of residential Oilburners

A NEW SERIES of residential oilburners having a range of 0.65 to 5 gph has been announced by Nu-Way Corp. Model F-285 is an underslung overshot design extremely compact to fit into small spaces. Firing range is from 0.65 to 2.85 gph. Hinge type transformer permits quick access to firming components.

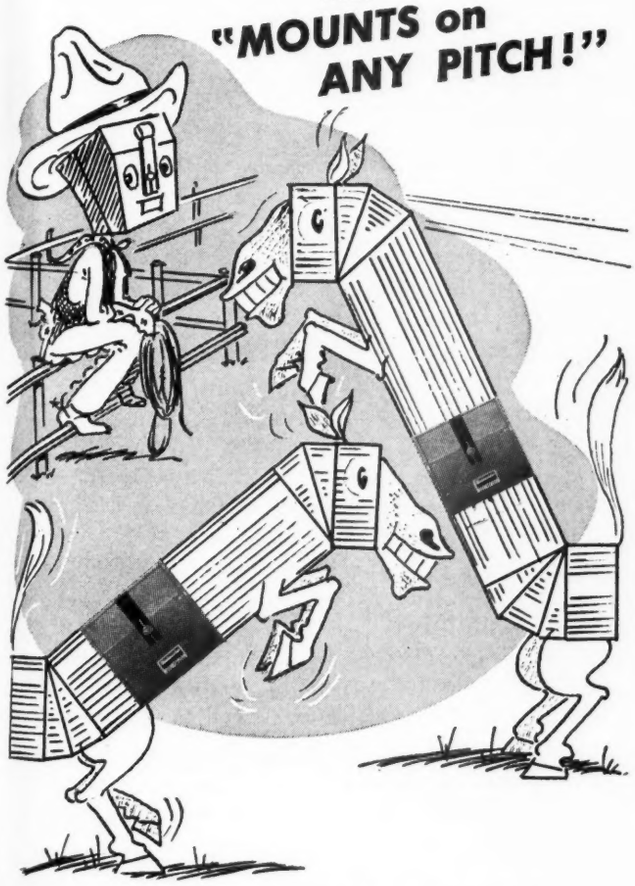


Model IXL-175 has a range of 0.65 to 1.75 gph; Model IXL-300, 1.75 to 3 gph; Model XL-500, 2 to 5 gph. All

WINDMASTER

the modern draft control that

"MOUNTS on ANY PITCH!"



As long as it's mounted on the side of the pipe, the pitch makes no difference. Windmaster is a star performer on sloping as well as horizontal and vertical pipes.

Once in the saddle, Windmaster silently rides herd on the slightest increase in draft before the burner knows about it.

Corral these Windmaster advantages for your jobs

- **Sloping Pipe Installations**
- **45° Vane—no nervousness —faster response**
- **Permanently Silent Non-Rusting Nylon Bearings**
- **Large Square Vane—more effective area**
- **Calibrated Counterweight**
- **E-Z 'Dapter — quick, easy installation**

Check the pitch and you'll see why it pays to say "Windmaster" to your jobber.

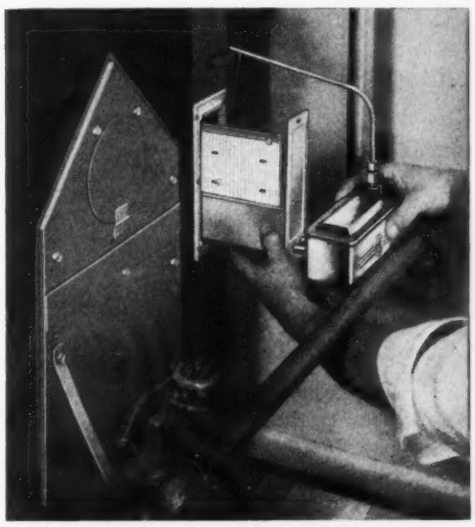
Windmaster® Corporation

43 Vine St. Columbus 15, Ohio

fueloil & oilheat

CONVECTOR HUMIDIFIER

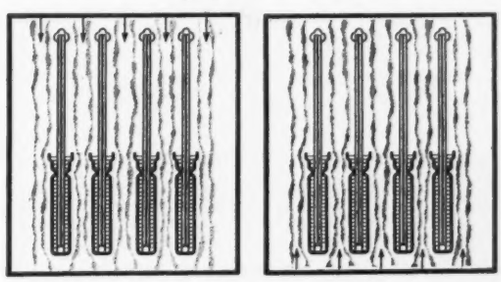
the only standard unit that fits both COUNTER FLOW and CONVENTIONAL warm air furnaces



For Counter Flow Warm Air Furnaces

Maid-O-Mist's Convector Humidifiers, because of their narrow ⅝ inch wide trough design, can be installed in counter flow warm air furnaces having a minimum air passage of 3 inches. As shown above, the humidifier can be installed on either side of the furnace directly above or below the burner—depending on furnace design.

Unlike ordinary warm air furnace humidifiers, this Maid-O'-Mist Convector Humidifier has no flat-bottom to block the flow of warm air. Maid-O'-Mist's individual ⅜" copper water troughs are spaced 1" apart to allow unrestricted air flow between the evaporator pads. This exclusive design provides greater evaporating working area so necessary in short cycle modern heating. That's why Maid-O'-Mist Convector Humidifier is ideal for the small plenums of all modern warm air furnaces . . . conventional, counter flow and year around air conditioning units.



Note how Maid-O'-Mist's exclusive individual trough design allows the air to flow freely between the evaporator pads . . . whether in an upward motion for conventional furnaces, or down in counter flow furnaces. The entire area of each of the large evaporator pads is in direct contact with the warm air flow thus providing 30% more evaporation surface.

60%	30%	50%
Less air restriction in plenum	More evaporation area	Less installation time

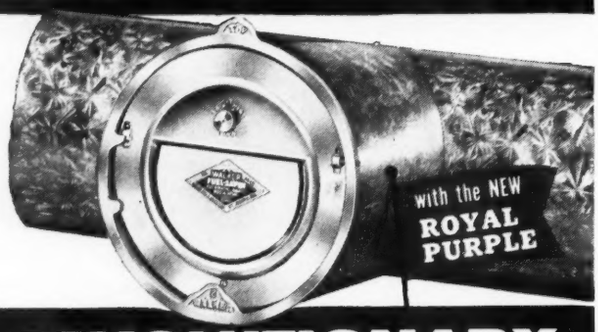
MAID-O'-MIST, Inc.

3217 NORTH PULASKI ROAD

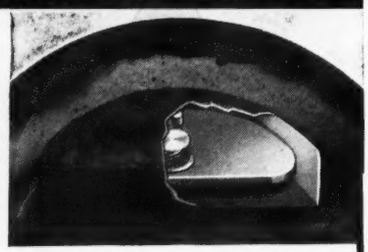
CHICAGO 41, ILLINOIS

MAID-O-MIST Inc. HEATING SPECIALTIES

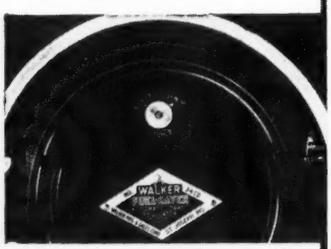
WALKER SCORES AGAIN!



REVOLUTIONARY IMPROVEMENTS in Automatic DRAFT REGULATORS



Now for the first time in Draft Regulator construction a REVOLUTIONARY improvement seals the adjustment assembly (the heart of any draft control) and its intricate mechanism away from dirty, corrosive soot and carbon deposits that destroy its proper functioning. Illustration shows heavy deposit of soot and carbon on the back side (actual installation). Cut-away view shows how adjustment assembly is protected from rust and dirt with this new, outstanding (patents pending) sealed-in feature.



This view (actual installation in use a year) shows how front side of regulator is clean as new. Sensitivity of the pivot pins on the dirty regulator are positively not impaired because (1) They are located on the clean face of the vane and set back away from edge; (2) The box type hinge makes it possible to seal the knife-edge bearings from the dirty soot deposits on back of vane; (3) The hollow box construction provides a knife-edge bearing and centering guide for vane.

This is an unretouched photograph of unit in use for over a year. This shows how clean and glistening pivot pins remain after years of use.

Shows how box type hinge for pins is completely closed front and back. Assures sensitive service for years.

This new revolutionary improvement found only in the Walker Royal Purple L-CD Unit and is exclusive —no other make of draft control has it, no other can duplicate it, because patents are pending. This is the only draft control made that can be easily adjusted after one year, two years, three years or more under the worst conditions of soot, dirt and dust. See your jobber or write for catalog of complete line of draft controls and the famous Walker Venturi-Top Chimney Cap.

Walker Manufacturing & Sales Corp.

1750 Penn St. St. Joseph, Missouri

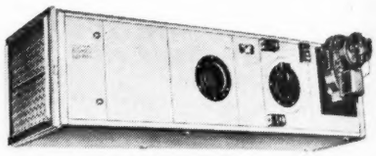
have sand-cast aluminum alloy housings, extra large fan, and heavy duty transformers.

Made by: Nu-Way Corp., Rock Island, Ill.

Circle E20 on coupon below

Luxaire 84,000 Btu horizontal oil Furnace made by C. A. Olsen

DESIGNED FOR INSTALLATIONS in moderate size homes where no floor space is available, the new Luxaire OY-85-E can be suspended from or set in place on rafters. The C. A. Olsen unit is 77½" long, 20" high and 20" deep. The air intake and discharge openings are 18" x 18" and one 20" x 20" filter is utilized.



Made by: C. A. Olsen Manufacturing Co., Elyria, O.

Circle E21 on coupon below

EhCo oil tank Valve for Tanks with bottom Outlet

EHCO OIL TANK VALVE, fabricated of one-piece heavy forged brass, is intended for use on bottom outlet oil storage tanks. The needle type valve features metal to metal seat, plus an outlet for installation of nipple and cap below the valve for a sediment chamber.

Made by: EhCo Htg Specialties, P. O. Box 6206, Indianapolis 24, Ind.

Circle E22 on coupon below

READER SERVICE COUPON

FUELOIL & OIL HEAT READER SERVICE
2 West 45th St., New York 36
REPLY CARD MAY
Mail Now—Card Expires July 31, 1955

Circle numbers of new product items on which you want more information:

NEW PRODUCTS

E1	E2	E3	E4	E5	E6	E7	E8	E9
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ADVERTISEMENTS—Give page number and name of advertiser about whose products you want more information.

Page ..... Advertiser .....

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Company ..... **Position** .....

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Check Classification of principal dollar volume:

☐ **Fueloil Dealer** ☐ **Parts and Equipment Jobber** ☐ **Manufacturer** ☐ **Manufacturer Employee** ☐ **Manufacturers Rep.** ☐ **Oilheating Dealer** ☐ **Other**

CONVERSION JOB *Tips*

Don't Forget to Sell

Clean Heat
Odorless Heat

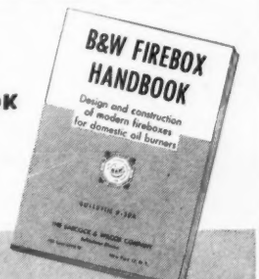
Your prospect may be thoroughly sold on the economy of oil heating. But you still can lose the sale if he has the idea rattling around in his mind that oil means a lot of soot and odor.

And it doesn't, of course. With lightweight refractories you can deliver *clean* heat, *odorless* heat that will please the fussiest prospect and, even more importantly, his wife.

What does light weight have to do with it? Plenty! Insulating firebrick are light in weight because they contain millions of tiny, insulating air cells. These air cells stop the flow of heat through the brick—the heat is bounced back into the firebox. On start-up, the hot face of lightweight refractories come up to operating temperature in a fraction of the time it takes to heat ordinary firebrick. And by keeping the heat inside the combustion chamber flame temperatures are higher during firing. Combustion is therefore more complete, eliminating soot and odors.

B&W Insulating Firebrick are the lightest weight refractories of their kind . . . for the cleanest, most odor-free oil heat. And their higher thermal efficiency, due to light weight, saves your customers as much as 25% on fuel.

Send today for the
B&W FIREBOX HANDBOOK
a valuable guide
for every installer

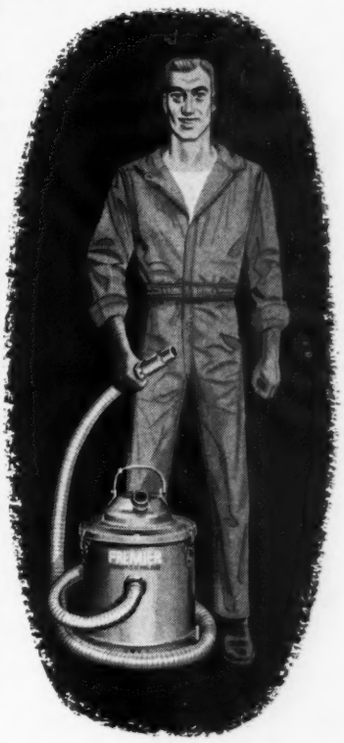


THE BABCOCK & WILCOX CO.
REFRACTORIES DIVISION
General Offices: 161 East 42nd St., New York 17, N.Y.
Works: Augusta, Ga.
B-512

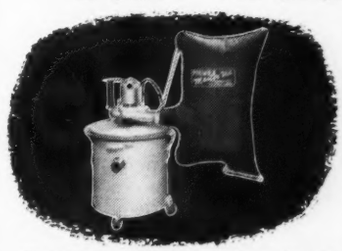
now! new SPIC-SPAN

latest, low cost furnace, air conditioning and boiler cleaner

Here's *one* example of what Premier's new Spic-Span gives you: 3 times more filtering area in standard size filter! Money-saving result: Motor lasts much longer, air flow stays stronger, and filter doesn't have to be cleaned so often. At last, a machine that meets the demands of long-time furnace cleaning men at low, low cost! Remember: this is only *one* feature of Premier's new Spic-Span. It would pay you to know *all* the features. Compare Premier's specifications with any other's. (Our specs. are honest-to-gosh true.) For your own best advantage, write for all the details NOW!



"OLD RELIABLE"



Premier 908F — Still the most popular and the most praised of all. Has the working guts and rugged construction for heaviest of heavy-duty jobs. If there is *one* furnace and boiler cleaner you should know all about, this is it! Write Now!

Both Premier machines listed by Underwriters' Laboratories and Canadian Standards Association.

PREMIER

the premier company
755 Woodlawn Ave., St. Paul 1, Minnesota
35 Gerrard St. West, Toronto 2, Canada

The PREMIER Company
755 Woodlawn Ave., St. Paul 1, Minnesota

Please send me more information on your ☐ Spic-Span; ☐ Old Reliable.

NAME_____
FIRM_____
ADDRESS_____
CITY_____ STATE_____

Contractors' feature Panels at 66th annual Convention

AMONG THE highlights of the 66th Annual Convention of the Heating, Piping and Air Conditioning Contractors National Association at the Shamrock Hotel, Houston, Texas, May 10-13, was a series of panel discussions.

Included in the series was a two hour discussion on airconditioning and refrigeration, co-chairmaned by William S. Bodinus and Austin Ford. Presentations were given on the heat pump (York Corp.), multi-zone airconditioning systems for office buildings (Buensod-Stacey, Inc.) and self-contained units for airconditioning applications (Air Comfort Corp.).

There was also a panel devoted to home heating, with K. A. Leitgabel acting as chairman.

Reports presented by chairmen of 20 national committees of the organization dealt with progress and performance during the past year in Airconditioning, Refrigeration, Apprenticeship, Standards, Welding, Radiant Panel Heating, Trade Promotion, Boiler Output, National Certified Pipe Welding Bureau and other categories.

Major speakers at the Convention included Dr. Kenneth McFarland, Elmer Wheeler, Martin P. Durkin and William B. Barton.

Election of officers took place on the final day of the meeting.

WHAT IT TAKES TO CLEAN UP-

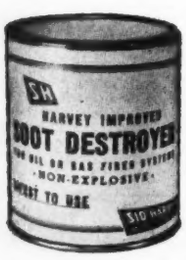
IT TAKES GOOD EQUIPMENT that's what it takes! You can clean the boiler or furnace in jig time—and you "clean up" yourself too!

SID HARVEY'S has what it takes

THE HARVEY VACUUM CLEANER is just what the doctor ordered.—No outside Dust Bag—Light to carry—Efficient. Trade Price only $99.50
De Luxe Model illustrated is more powerful @ $111.65

You need GOOD BRUSHES too—Sid Harvey's has the full line—fine wire—fiber—all kinds, including Chimney and Duct brushes.

SID HARVEY SOOT DESTROYER to get in places that brushes can't reach. This Soot Destroyer is the best for Gas or Oil fired systems — safest to use too.



Fully described in SID HARVEY'S CATALOG — write for it on your own letterhead!

34 SID HARVEY STORES FOR ON THE SPOT SERVICE

SID HARVEY INC.
VALLEY STREAM, NEW YORK

Wholesaler Group features Airconditioning at Meeting

MAIN TOPIC discussed at the Phoenix, Ariz. meeting of the National Heating Wholesalers Association, Columbus, Ohio on April 24-26 was the wholesaler's future role in the airconditioning field.

Major talks given at the meeting included: "What the Manufacturer needs in an airconditioning Wholesaler," by Sam Levine, president, Home Heating and Cooling Division, General Electric Co., Trenton, N. J.; "What the Dealer needs in an airconditioning Wholesaler," by Walter Swenberg, installer of the system at Mayo Clinic; and "Why the Manufacturer and Dealer needs the airconditioning Wholesaler," by W. L. Dulle, vice-president in charge of Heating & Air Conditioning Sales and Engineering, E. E. Souther Iron Co., St. Louis, Mo.

Harold Squire is chairman of the group's Airconditioning Committee.

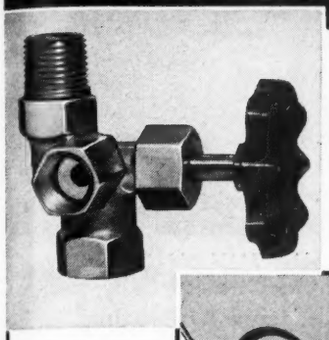
Romney and Rodman Speak at NPA convention Meeting

GEORGE ROMNEY, president and chairman of the board, American Motors Corp. and Roland V. Rodman, president, Anderson-Pritchard Oil Co., Oklahoma City, Okla., were the major speakers at the 52d semi-annual meeting of the National Petroleum Association, held April 13-15 at the Hotel Cleveland, Cleveland, Ohio.

Romney discussed "The Role of an Independent in the automotive Industry," while Rodman considered "The Public Interest in natural Gas." Presiding at the general session which both men addressed was A. W. Scott, president of NPA and president of the Wolf's Head Oil Refining Co., Inc.

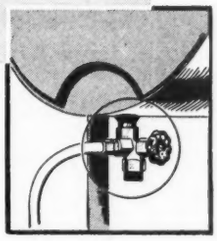
In addition to the two major speak-

A Sturdier Oil Tank Valve At A Lower Price!



1-Piece Heavy FORGED BRASS

No soldered joints to crack or break out. The most sensible valve made for maximum strength and easy installation on bottom outlet oil tanks. Needle type valve with metal to metal seat. Nipple and cap can be installed below valve for sediment chamber. The Ehco valve costs you LESS, but gives you so much more! If not available from your jobber, write us for complete information.

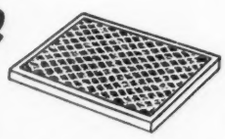


Handier! Stronger! Durable!

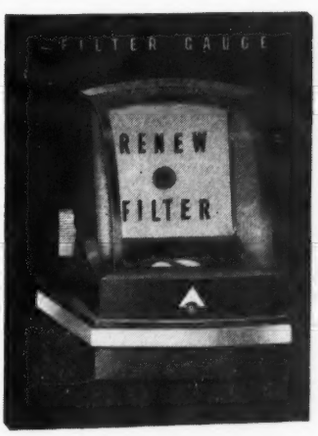
EhCo HEATING SPECIALTIES

P. O. Box 6206, Indianapolis 24, Indiana

Now! A Reliable FILTER GAUGE that SELLS ON SIGHT!



FOR FORCED AIR HEATING, VENTILATING, AND COOLING UNITS



$6.35 LIST

LESS LIBERAL DEALER'S DISCOUNT

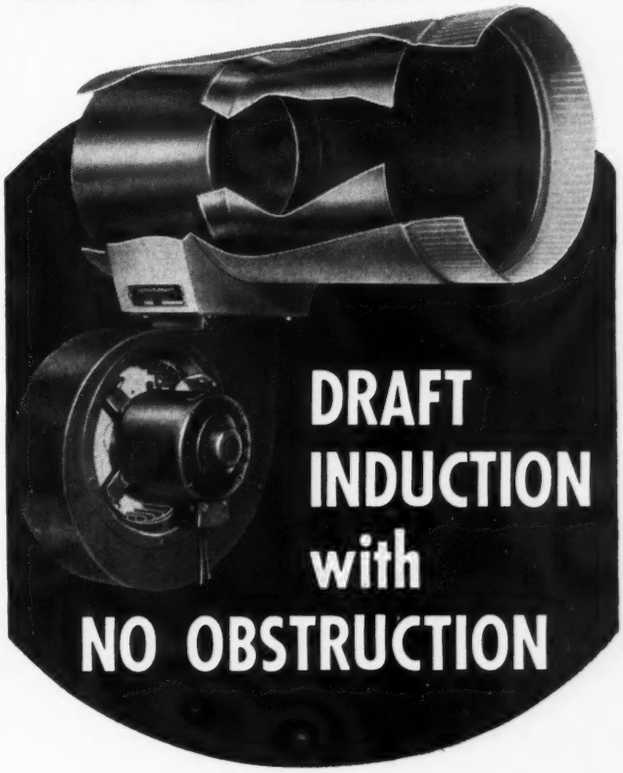
- INCREASES PROFITS
- EASY TO INSTALL
- SELF-CONTAINED
- SELLS MORE FILTERS
- CUTS EMERGENCY CALLS
- USES NO ELECTRICITY

ASK YOUR JOBBER OR WRITE FOR LEAFLET 841

BACHARACH INDUSTRIAL INSTRUMENT CO.

FG-2a 7301 PENN AVENUE • PITTSBURGH 8, PA.

This X-Ray View shows why *quickdraft* alone can claim . . .



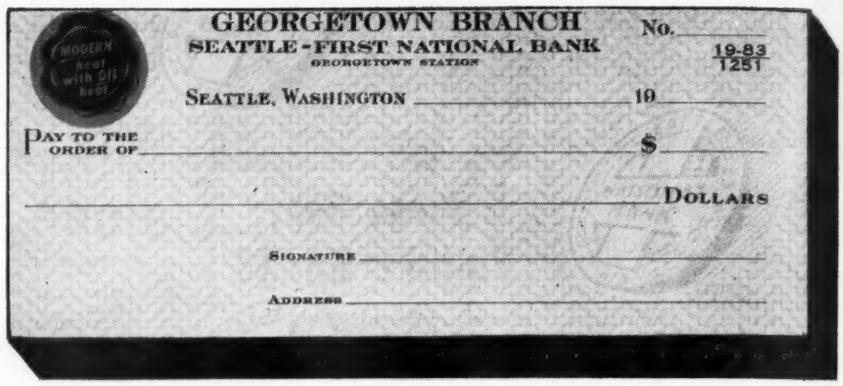
Patents are pending on the exclusive features of *quickdraft* which produce all the draft you need without obstructing smokepipe or flue. And we mean no obstruction—ever!

The Venturi system, which acts as an aspirator, sets up no obstruction to flow of flue gases. No moving parts to corrode or collect soot, no bearings exposed to heat or flue gases.

It's hard to believe, but true—the shorter the chimney, the better the draft with *quickdraft*. So, get all the facts. You'll want to use *quickdraft* on your next job. Write for complete literature, installation manual and name of nearest jobber, to Quickdraft Company, Dept. Q, 1150 So. Erie Blvd., Hamilton, Ohio.

quickdraft

DRAFT CREATOR



This picture *of a check with the "Modern Heat with Oil Heat" seal illustrates a new promotional method being employed by the Oil Heat Institute of Washington. Pointed at providing wider publicity concerning the size of the oilheating industry, many of the nember companies have requested their employees to use the stickers on their checks, correspondence, etc., in addition to using the stickers themselves. Such a company is Griffin Fuel Co., Seattle, Wash., which in a memo to its employees noted that "Every time you use the sticker it will help to strengthen your industry, your company, and insure your job and pay check."*

ers, a series of discussions were held by the various NPA departments, including one session on industrial relations which discussed recent developments in labor relations in petroleum trucking and distribution.

Warm air Group will hold annual Meeting in New York

ARRANGEMENTS have been made by the National Warm Air Heating and Air Conditioning Association, Cleveland, Ohio, to hold their 42nd annual convention at the Hotel Statler, New York, N. Y.

The 13 committee and Board of Trustees meetings are scheduled for Monday and Tuesday, November 28 and 29, while the Convention will be held on Wednesday and Thursday, November 30 and December 1.

George Boeddener, managing director, suggests that members wishing reservations contact the Hotel Statler as soon as possible, and that all those planning to attend notify his office.

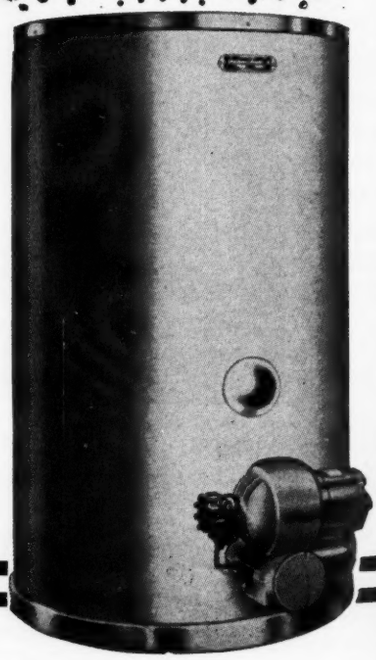
Maryland Dealers hear Talk on truck Operation

HIGHLIGHT of the April 19 meeting of the Oil Heat Association of Maryland at the Stafford Hotel in Baltimore, Md. was a talk by John Wheatly, Sherwood Bros., Baltimore, on efficient fleet operation management.

Other business discussed at the meeting included a report from Jim Lynch, secretary, Eastern Shore Division, concerning new unit's latest meeting, in which it was noted that expansion is being considered to include the whole Del-Mar-Va Peninsula.

You'll Like.....
...THE QUICK PICK-UP IN....
Profits in the Small Home Market with...

SHEPHARD PERCOLATING ACTION BOILERS

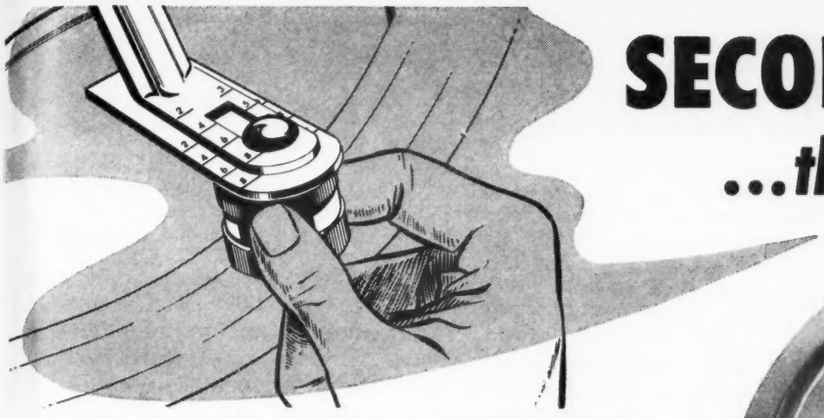


Yes, PROFITS are intensely interesting these days, particularly when they come from prestige building merchandise . . . through a market that is growing daily. Yes, SHEPHARD Domestic Boilers and Hot Water Heaters (incorporating the Percolating Action) have become a standard in profits, efficiency and economy. This well known action prevents lime, scale and sediment from collecting . . . keeps boiler continuously clean . . . thus preserving the life and efficiency of the heating unit. Sturdily constructed for long-lasting dependability. Completely arc welded from boiler plate and tubes. Thoroughly galvanized inside and out. Furnished with any desired color (blue is standard) with chromium trim.

Boilers have 2" wool insulation. WRITE FOR FURTHER DETAILS.

Shephard HEATER CO. INC.

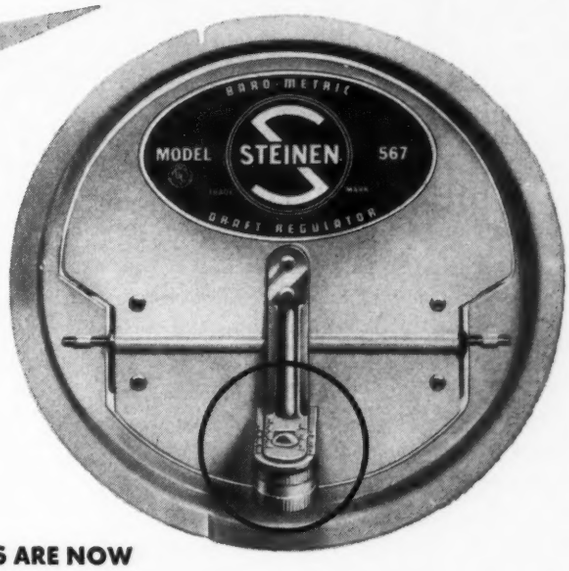
951 SYCAMORE AVE., TERRE HAUTE, IND.



SECONDS!

...that's all it takes

—to set the Steinen Calibrated Draft Regulator



Weight adjustments are calibrated clearly and accurately for quick and easy setting.

To set for any draft, loosen front knurled weight 1 to 2 turns and tighten after matching two lines of desired setting. Rear weight moves with front weight so that true balance is always maintained.

The same method applies for either horizontal or vertical installations. It is not necessary to interchange ANY parts of the Steinen Draft Regulator.

STEINEN DRAFT REGULATORS ARE NOW AVAILABLE IN ALL POPULAR SIZES

3402

ESTABLISHED 1907

STEINEN

WM. STEINEN MFG. CO. 43 Bruen St., Newark 5, N. J.

MANUFACTURERS OF ACCESSORIES FOR OIL HEATING AND AIR CONDITIONING

GET YOUR FOOT IN THE DOOR

GET THOSE
HEATING PLANT REPAIRS
NEW INSTALLATIONS

Increase Sales Contacts with the

GRAND RAPIDS FURNACE CLEANER

Yes, here's your "in" to increased business and profits! The famous Grand Rapids Furnace Cleaner not only gets you into the customers basement but gives you an excellent opportunity to check over each heating plant as it is cleaned.

The Grand Rapids Furnace Cleaner puts you right where you can naturally recommend and sell necessary repair work and new installations.

The proven sales plan "A Plan to Increase Your Sales" leads the way to profits! The right to use this manual is reserved to users of the Grand Rapids Furnace Cleaner.

Write for free information today!

DOYLE VACUUM CLEANER CO.

233 Stevens St., S.W. Grand Rapids 7, Michigan

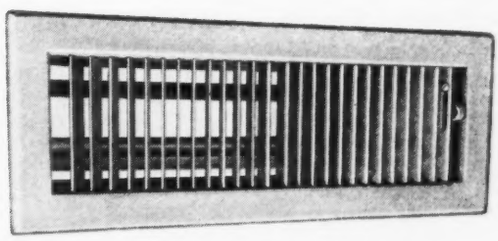
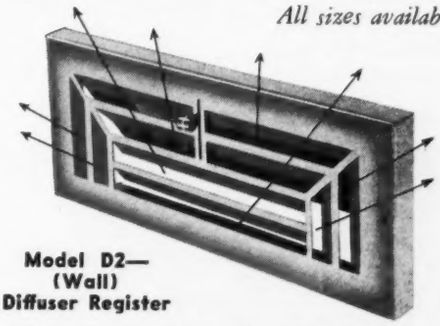


Fig. P?—*Perimeter Diffuser Register — All sizes available.*



Model D2— (Wall) Diffuser Register

Besides Diffuser Type registers the National Line includes all types and sizes of registers and grilles.

Write for Catalog.

National GRILLE AND REGISTER CO.

3169 East 80th Street Cleveland 4, Ohio

Sundstrand OIL BURNERS

Enthusiastic reception by the public explains the higher sales frequency of the Sundstrand all-electric oil burners. With a Sundstrand, the most modern concepts of warm air heating are realized. . . . That's not enough; with a Sundstrand, initial low-cost is matched by long-span oil burner performance.

. . . These values and the Sundstrand reputation for the finest in oil heating add up to complete customer satisfaction. Foot or bracket mounted, all Sundstrand oil burners are listed as standard by Underwriters' Laboratories . . . and meet all state and local requirements.

A leader in oil heating for 33 years.

SUNDSTRAND ENGINEERING CO., Rockford, Illinois

South Jersey Association hears John Reiners, Jr.

AN ADDRESS by John H. Reiners, Jr., president of the Camden County Chamber of Commerce on the new Delaware River bridge and its effects on the fuel industry, was the feature of the April 12 meeting of the South Jersey Fuel Merchants Association at the Silver Lake Inn, Clementon, N. J.

In addition to Reiners' talk, Dick Hammond, chairman of the Fueloil Committee presented a report on his unit's progress, and Andy Peak, chairman of the Ladies' Night Committee, outlined plans for the event to be held May 3.

Calendar of coming Events

MAY, 1955

10–13—Heating, Piping and Air Conditioning Contractors Nat'l Assn. (66th Annual Convention), Shamrock Hotel, Houston, Tex.
11—Richmond Oil Heat Assn., William Byrd Hotel, Richmond, Va.
15–17—Pennsylvania Petroleum Assn., (Spring Convention), Bedford Springs Hotel, Bedford, Pa.
15—Tennessee Oil Men's Assn., spring meeting, Gatlinburg, Tenn.
16—Fueloil Dealers Assn. of B. C., Hotel Georgia, Vancouver, Canada.
16—Rockford Fueloil Dealers Assn., Lafayette Hotel, Rockford, Ill.
17—OHI of Greater Washington, D. C., Dupont Plaza Hotel, Washington, D. C.
18–19—Indiana Independent Petroleum Assn., spring meeting, French Lick Springs Hotel, French Lick, Ind.
19—Atlantic Heating & Cooling Assn., Penn-Atlantic Hotel, Atlantic City, N. J.
19—Stanley County Oil Dealer's Assn., Junior Chamber of Commerce Club House, Albemarle, N. C.
20—Virginia Oil Men's Assn., semi-annual meeting, John Marshall Hotel, Richmond, Va.
23–25—American Petroleum Institute (Division of Marketing, midyear meeting), Chase & Park Plaza Hotels, St. Louis, Mo.
24—Central Suffolk Fuel Dealers' Assn., Peaks Tavern, St. James, N. Y.
25—Oil Heat Assn. of Gary, Ind., Hotel Gary, Gary, Ind.
25–27—North Carolina Oil Jobbers Assn., (Spring Convention), Carolina Hotel, Pinehurst, N. C.
26—Wisconsin Oil Heat Assn., Wisconsin Hotel, Milwaukee, Wisc.

JUNE, 1955

5– 8—Air Conditioning and Refrigeration Institute, annual convention, The Homestead, Hot Springs, Va.
7–10—Oil Heat Institute of New England (Eastern biennial exposition of oilheat and domestic cooling), Hotel Statler, Boston, Mass.
8—Richmond Oil Heat Assn., William Byrd Hotel, Richmond, Va.
8– 9—American Petroleum Institute (OIIC Meeting), William Penn Hotel, Pittsburgh, Pa.
9–10—National Warm Air Heating and Air Conditioning Association (Semi-annual Meeting, Board of Trustees and Committee Meetings), Drake Hotel, Chicago.
12–15—The American Society of Refrigerating Engineers (Spring Meeting), Hotel Schroeder, Milwaukee, Wis.
13—Delaware Valley Oil Heat Assn., Buck Hotel, Feasterville, Pa.
14–15—Institute of Boiler and Radiator Manufacturers (9th Annual Short Course) Univ. of Illinois, Urbana, Ill.
19–21—Northwest Petroleum Assn. (Summer Conf.), Breezy Point Lodge, Pequot Lakes, Minn.
21—Wisconsin Petroleum Assn., annual golf tournament and party, Dell View Hotel, Lake Delton, Wisc.
27–29—American Society of Heating & Air Conditioning Engineers, (Semi-annual Meeting), St. Francis Hotel, San Francisco.

AUGUST, 1955

19–21—American Petroleum Institute (OIIC Steering Committee Meeting), Traymore Hotel, Atlantic City.
21–26—National Congress of Petroleum Retailers, Inc., annual meeting, Sheraton-Cadillac Hotel, Detroit, Mich.

ONLY McCORKLE CONTROLS for Vaporizing Oil Burners

give you this combination of vital features

- **Patented dual blade bi-metal assembly—insures trouble-free operation—supplies a wide margin of *extra* power.**
- **More rapid heat transmission.**
- **Snap acting Micro-switch.**
- **Heavier, more rugged construction.**
- **Less service—greater customer satisfaction.**

We will gladly furnish literature and specifications for your particular requirements. Write us today!

D. H. McCORKLE CO.
Box E, Station A Berkeley, California

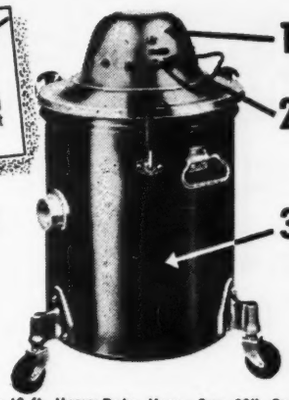
3 NEW Exclusive "Home-Run" FEATURES
PUT EMPIRE WAY AHEAD
in the FURNACE CLEANER League

When machine shuts off, baseball bounces and shakes dirt and soot loose from rayon bag.

Rayon Bag, Baseball and Draw String. $3.75 extra.

DISTRIBUTORS NOTE
Several choice territories available. Write today for complete information.

NEW! NOW AVAILABLE WITH BY-PASS MOTOR AT SLIGHT EXTRA COST



1. New type motor, more powerful, better constructed, gives 70 inches water lift at hose end.
2. Extra electric outlet on top of machine for connecting drop light. No hunting for outlets and dragging lengths of wire across the cellar floor.
3. Amazing new Rayon Bag with "baseball" device. EXCLUSIVE on Empire Furnace Cleaners. Outlasts dozens of paper bags. Keeps machine at top efficiency. Available at extra cost.

Manufactured by
EMPIRE CHEMICAL PRODUCTS CO.
10 Longworth Street, Newark 2, N. J.
In Canada—KRESNO-STAMM, 506 Harbour St., Montreal 24.

Includes . . . One 10 ft. Heavy Duty Hose—One 30" Crevice Tool—One Bag Cage with Filter Bag—One Paper Filter.

NU-VAC FURNACE CLEANER Still only $99.50

Manufacturers' Activities

Jefferson Electric observes fortieth anniversary Year

ON APRIL 7, the Jefferson Electric Co., Bellwood, Ill., began celebration of its 40th anniversary.

Started in 1915 with 20 employees as a firm making transformers for bell ringing systems and toys, Jefferson today is among the largest independent manufacturers of transformers, fuses, and allied equipment, and now employs 1,200 persons.

In 1928, Jefferson grew so substantially that it was able to merge the Chicago Fuse Mfg. Co. with its operations.

A major portion of Jefferson's plant at Bellwood was erected in 1932, and about four years ago, a program of plant expansion and equipment improvement was inaugurated. This program has been completed, and the plant and office space now totals 320,000 square feet.

Recently elected as president of Jefferson is Edward J. Bennan, who has been with the company sixteen years. He is a son of the late John A. Bennan, who along with James C. Daley and Albert R. Johnson founded the firm.

Other Jefferson officers include: W. Scott Minter, treasurer and director; Joseph G. Solari, vice-president in charge of sales; Alexander Sklar, vice-president in charge of manufacturing; William C. Anderson, chief project

HARVEY ELECTRONIC CIRCUIT TESTER

Used to check out Flame Detector Circuit on all M-H Electronic Relays, using a Photocell or Flame Rod for Flame Detection.

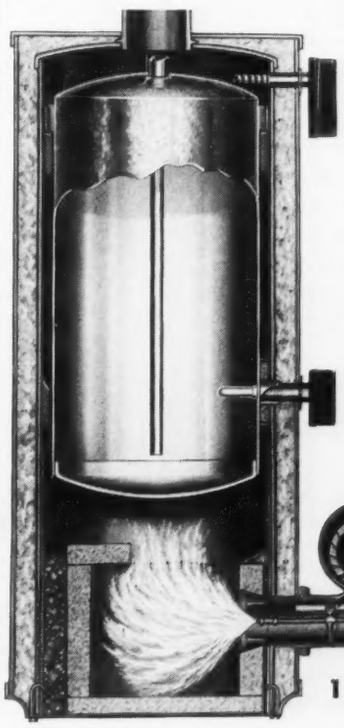
Write For Full Description

TRADE PRICE $4.95

SID HARVEY INC.
VALLEY STREAM, NEW YORK

34 SID HARVEY STORES FOR ON THE SPOT SERVICE

BOCK WATER HEATER WITH GLASS LINED TANK



- EXTRA heavy galvanized or glass lined tank, REMOVABLE.
- Sectional combustion chamber. Taken in and out of inspection door.
- Use No. 2 oil, same as in your furnace.
- Wide public acceptance, 26 years making good oil water heaters.
- Also a complete line of large heavy-duty oil or gas fired water heaters. For schools, apartments, and public buildings.

BOCK CORP.
110 S. DICKINSON ST.
MADISON 4, WIS.

SOOTMASTER

Furnace Cleaner with Disposable Filter . . .

CLEANS EASIER, SAFER, FASTER!

- ✓ No Outside Bag
- ✓ No Dust Bag to Empty
- ✓ Disposable Filter for easy emptying of container
- ✓ Leak-proof Dust Filters
- ✓ Double Filter Protection
- ✓ Compact - Light in Weight
- ✓ Easy to Handle

$99.50

Interested? Want more details? Contact your jobber or write us today.

MASTER-CRAFT SUPPLY CO., INC. Dept. FO HAVERSTRAW, NEW YORK

engineer; Dr. Herbert O. Rost, chief development engineer; John J. Brogan, sales manager; and Victor E. Lee, secretary.

On April 29, the company held an open house for its shareholders, and also provided a plant tour and buffet luncheon at its headquarters and plant.

Coleman holds School to train dealer force

POINTED at building an expert dealer force, the Coleman Co., Wichita, Kan., has started the 1955 series of "Homecoming" schools, the first of which was conducted in March for dealers from Florida, Louisiana, and Texas.

Held at the Coleman Institute at Wichita, the series will run through June. It is expected that dealers from all 48 states and the District of Columbia will attend the sessions.

Instruction this year takes place in enlarged and re-equipped refrigeration and electrical laboratories and shops in the Institute building. Practical installation and service instruction is being given on all major types of the Coleman airconditioning line.

Half of the five-day period is spent in lab and shop work, while the other half is taken up by classroom instruction, sales clinics, and a factory tour.

For the **MODERN BULK PLANT**

Specify **VIKING TWIN PUMPS** with Mechanical Seals

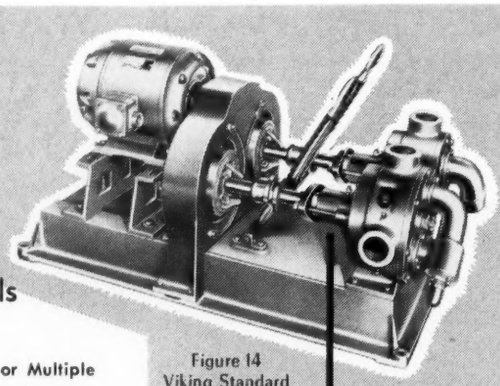
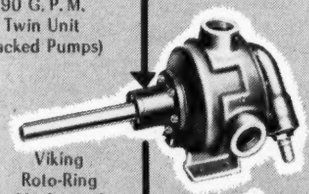
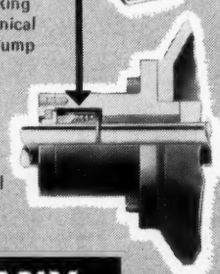


Figure 14 Viking Standard 90 G. P. M. Twin Unit (Packed Pumps)



Viking Roto-Ring Mechanical Seal Pump



Cut-Away View Roto-Ring Mechanical Seal

Order your modern Viking Twin or Multiple Bulk Plant Units with mechanical seal pumps.

This amazingly simple seal, WORKS WITH, rather than against pressure. There is no repacking . . . no maintenance . . . and because there is no leakage, this feature is particularly desirable from a safety standpoint.

Mechanical Seal pumps of this type are also equipped with bearings requiring no external lubrication. Cuts maintenance to a minimum.

For the complete new Viking oil equipment catalog, ask for Section G-ee today.

VIKING PUMP COMPANY

Cedar Falls, Iowa

See our catalog in SWEETS

Pullman Vacuum purchases Electric Blower Company

IN ORDER to widen its range through a more complete line of commercial cleaning equipment, the Pullman Vacuum Cleaner Corp., Boston, Mass., has purchased the Electric Blower Co., Boston, Mass. Electric Blower will become a division of Berns Manufacturing Corp., according to Stanley Berns, Pullman president.

This is the second expansion by Pullman in little over a year; the company added the Accordion Hose to its

Frank MacCallum *(left), president of Electric Blower Co., Boston, Mass., hands Stanley Berns, president of Pullman Vacuum Cleaner Corp., Boston, Mass., a Marvel portable blower, as Berns hands a check to MacCallum for payment in the recent merger of the two companies.*

products in 1953. Noting that Electric Blower's Marvel blowers and ventilating fans had been sold in a relatively small, select market, Berns remarked that this policy now will change, and that Pullman's sales force would start selling Marvel products immediately.

Frank MacCallum, founder of Electric Blower in 1907, will join Berns Mfg. Corp. in an advisory capacity.

Largest Class attends Waterman-Waterbury School

WITH OVER 100 DEALERS present, Waterman-Waterbury Co., Minneapolis, Minn., recently held the largest class in its seventh annual series of marketing and engineering schools at the home office of the firm.

Featuring an analysis of the attraction, selling, technical skills and management values of each dealer's business, the session was attended by dealers from Minnesota, Wisconsin, Iowa and Indiana.

In the form of a traveling three-day clinic, dealers from 29 states will have attended the schools when the present meeting schedule, under direction of E. M. Delaney, sales promotion manager, is concluded.

Emerson Radio switches to Jersey City from New York

THE TRANSFER of the administrative headquarters and plant of the Emerson Radio and Phonograph Corp., Jersey City, N. J., was completed March 31st, Benjamin Abrams, president of Emerson announced recently.

Although the executive offices have been switched to a new three story building built last year in New Jersey, the company's Public Relations Dept. as well as Emerson Radio Export Corp., a subsidiary will occupy a suite in the Plaza Hotel, New York city.

Left to right: *T. M. Davis, assistant general sales manager, Shreveport, La.; L. T. White, manager of Cities Service Business Research & Education, New York, and Dr. William R. Bennett, associate professor of marketing, examine one of the visual presentations used during the Arkansas Fuel Oil Corp. Institute on Small Business Management, held during March at the University of Alabama.*

"We wanted to give our customers the **VERY BEST FUEL OIL** *available!"*

says

JOHN G. ARNOLD
President
Arnold Coal & Supply Co. Inc.
GULF SOLAR HEAT BRAND DEALER of Harrisburg, Pennsylvania

"That's why Mr. Arnold decided GULF SOLAR HEAT (with SOL-X) *best* for saving on service calls and troublesome burner difficulties. SOL-X is the magic ingredient that gives GULF SOLAR HEAT those vital anti-sludging and anti-rust properties that minimize customers' service costs.

GULF proudly salutes Mr. Arnold for his keen judgment on customers' needs and the high standard burner and "filtered" fuel oil service he renders.

GULF SOLAR HEAT heating oil

GULF OIL CORPORATION
GULF REFINING COMPANY

Repair Pumps, Valves, Fuel Units Easily . . . Quickly

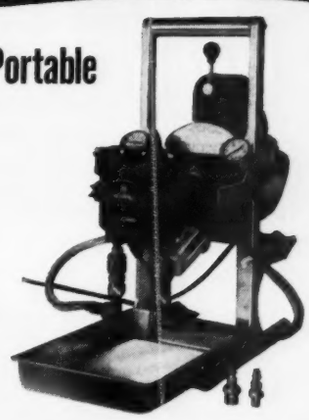
IN YOUR OWN SHOP OR IN THE FIELD

with a KINGSLEY Portable

FUEL UNIT TESTER

only $8750
F.O.B. Factory

- Reduces call-backs and complaints.
- Does a complete job the first time.
- Saves money because it eliminates buying replacements.



(Pat. Applied For)

The KINGSLEY Tester locates all sources of fuel unit or pump trouble easily and quickly. There's no guessing . . . no overlooking some defects. You can do a complete reconditioning job the first time. It tells you when you can restore 100% efficiency . . . with a few inexpensive parts such as a gasket or bellows instead of a complete replacement. It will more than pay for itself.

Write Today for Complete Descriptive Brochure

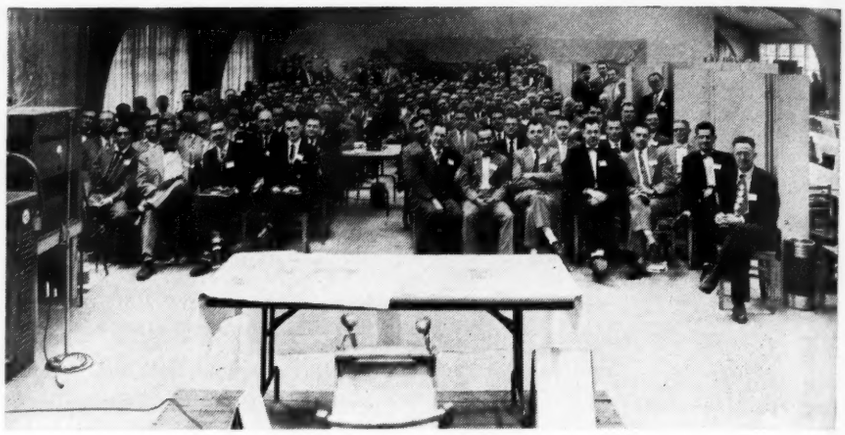
Sold Through Leading Jobbers
Made By
Kingsley MANUFACTURING CO.
420 HOWARD AVE NEW HAVEN, CONNECTICUT

Peerless and Round Oak hold second annual dealer Meeting

EMPHASIZING selling and knowledge of the product, the Peerless and Round Oak Co. recently held its second annual two-day national airconditioning conference in Indianapolis, Ind. on March 24-25 for dealers, distributors.

The 300 men in attendance were given a preview and demonstration of the organization's new line of airconditioning units, and heard talks by Frank M. Mutz, Peerless and Round Oak president, who opened the meeting; Professor Herbert Gilkey, University of Illinois, spoke on airconditioning application research; and Professor William Miller of Purdue University covered sizing requirements.

Oz Mutz, salesmanager of the company, and Harold W. Mutz, vice president, directed the discussion period.



M-H appoints three regional home products sales Heads

THREE REGIONAL SALES MANAGERS have been appointed by the newly-formed Home Products Division, Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.

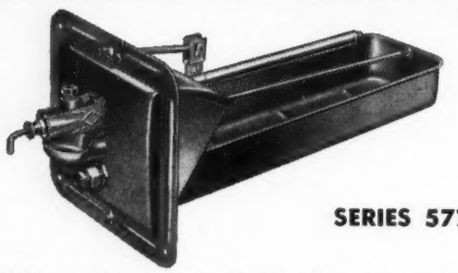
Responsible for the sale of Honeywell equipment to the home builder market in their respective areas, the new managers are W. H. Christensen, in charge of the seven Pacific and north coast states with headquarters in Los Angeles; Ed J. Regan who will handle the 13 southwestern and mountain states using Dallas as his headquarters; and Harrison D. Kurtz who will head sales in eight midwestern states with offices in St. Louis.

L. J. Wing names new Officers following Wilson's Retirement

THE L. J. WING MFG. CO., Linden, N. J., recently named a new set of officers following the retirement of Walter W. Wilson, vice-president and treasurer.

The officers now comprise H. S. Wheller, president and general manager; C. H. Smith, vice-president and treasurer; H. S. Wheller, Jr., vice-president and secretary; T. R. Peyrek, vice-president in charge of Heating and Ventilating Division, and C. R. Mayer, assistant treasurer.

COMPLETELY ASSEMBLED
Vaporite
AUTOMATIC HUMIDIFIER
OFFERS QUICKEST — FASTEST INSTALLATION
ADJUSTABLE TO SLOPING OR STRAIGHT BONNET FURNACES



SERIES 577

Stainless steel construction. Drip-feed puts just enough water in pan for fastest vaporization. Eliminates scum . . . no stagnant water pan.

Pre-assembly cuts labor time and costs. To install simply cut hole in plenum wall, slip VAPORITE in just as it comes from shipping package.

Get complete information. Write FO-5

Automatic Humidifier Co.
CEDAR FALLS, IOWA

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KECO
Remote-Reading TANK GAUGE
For Oil and Gasoline

➡ Versatile!
➡ Attractively Priced!
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FREE BULLETIN shows why the Keco gauge is a natural for users, distributors and dealers alike. Write Today!

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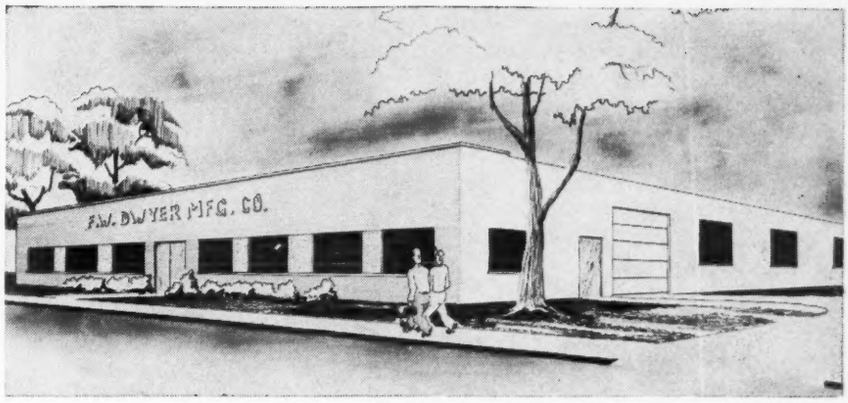
MANUFACTURERS OF GAUGING EQUIPMENT FOR OVER 30 YEARS



Construction *is underway on the new plant and general offices of the F. W. Dwyer Mfg. Co., Chicago. The company will move into the new facility, located in Michigan City, Ind., sometime in July.*

Carrier Corp. announces new warranty Program for Units

INAUGURATION of a new warranty program guaranteeing ten years life on the major heating components in its home Weathermakers has been announced by the Unitary Equipment Division of the Carrier Corp., Syracuse, N. Y. The cooling cycle is guaranteed for five years.

In addition, the entire line of Carrier self-contained Weathermakers for commercial and industrial applications now has a five-year warranty protection on its complete refrigeration cycle.

Designed to protect the user against costs of service labor, and shipping and replacement parts for the five-year operating period, the warranty also includes a one-year guarantee on all other parts of the units.

C. A. Dunham holds regional Meetings for its sales Reps

SIX REGIONAL sales meetings were held recently in Chicago, New York, Birmingham, Ala., and San Francisco for sales representatives of the C. A. Dunham Co., Chicago.

Speakers were H. S. Marshall, president; Walter S. Browning, vice-president of sales; Ellis Powell, chief engineer; Norman F. Sorgenfrei, sales manager, and Jack O'Neil, advertising manager. Several new and completely redesigned products were shown.

Larger Quarters dedicated at Cromwell Printery open House

FEBRUARY 24 was the date for an open house celebration held by Cromwell Printery, Inc., dedicating new and larger quarters at Church at Bleecker Sts., Albany 1, N. Y. The firm, which specializes in all types of printing and printed forms for fueloil dealers, notified its customers of the event with an amusing folder in verse.

The new facilities incorporate tripled floor space, elevators, reception room for customers and private railroad siding.

Kresky Distributor offers "Happy Holiday" trip Plan

USING "Happy Holidays" as a theme, the A. F. Epting Appliance Co., Charlotte, N. C., distributor for Kresky Mfg. Co., Petaluma, Calif., recently ran a sales promotion contest. It provided all expense trips to cities ranging in locations from North America to Europe, depending on the amount of units sold by North Carolina retailers.

Sales of all units in the Kresky line, with the exception of separate burners and parts, counted towards the various prize trips.

Robert Scully *(left) now on the sales force of Scully Signal Co., Melrose, Mass., discusses a display card with his father and president of the company, Frank P. Scully. The point of sale card carries the new Scully automobile tank accessory designed to prevent spillage during fueling.*

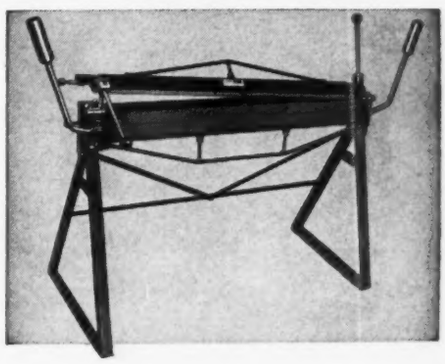
Invest Just $200.00 A New Low Price

F.O.B. Pgh., Pa.

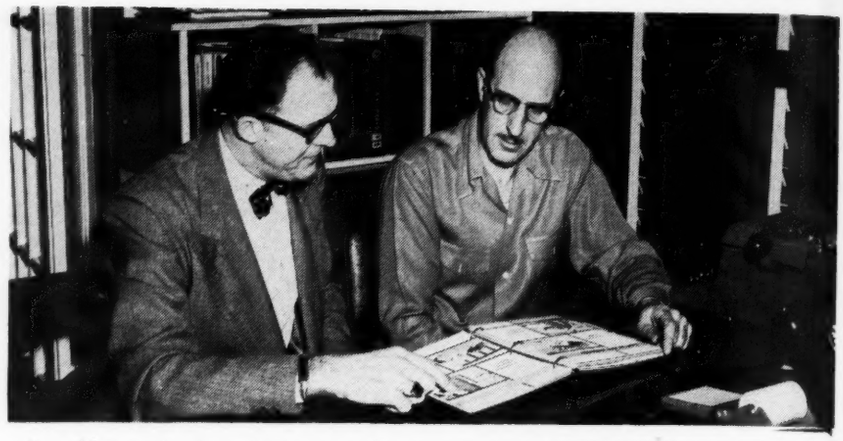
and Make Your Own Ducts and Fittings!

with **WEBCO** the Portable Sheet Metal Bending Brake

With this one inexpensive tool, you can both form and lock ducts and fittings, and keep up to 35% more profits on warm air and cooling jobs by making the ductwork yourself. No change in quality or specifications—this is the same sturdy, precision tool that bends 20 gauge mild steel and that previously sold at a much higher price.



HALLMOR INC. — McMurray Road, Bridgeville, Pa.



W. L. Sneltjes *(left), manager of* G-E *Home Heating and Cooling Modernization Sales, discusses recently introduced sales training material with Carl Zimmerman, Montclair, N. J. dealer. Using the new presentation to dramatize sales features, Zimmerman on four test calls scored three immediate sales and one promise of a sale at the end of the heating season.*

General Electric announces new sales training Program

A NEW, PACKAGED sales training program for its dealer organization has been announced by the Home Heating and Cooling Department, General Electric Co., Bloomfield, N. J.

A self-contained, "do-it-yourself" course, the program enables distributors to conduct their own training meetings for dealer salesmen with ample flexibility to meet their own individual needs.

Using visual presentation as the focal point, the program features a 168 page loose-leaf book illustrating the sales story in full color on G. E.'s home heating and cooling lines. It is based on three questions, "Who makes it?", "Who installs it?", and "How good is it."

In addition to the visual aid, the program utilizes voice recordings of sample sales pitches; a salesman's digest booklet to provide sales conversation on each product; 4 basic sound slide films on canvassing, selling and closing; and skits for telephone and personal solicitation. A "blueprint" guide aids the dealer in planning and conducting his meetings.

HOW ABOUT THAT?
BUT... WE ONLY SERVICED IT LAST WEEK AND YOUR OIL-BURNER WAS WORKING FINE! DID YOU TINKER WITH THE ADJUSTMENTS OR FOOL AROUND WITH IT?
COURSE NOT!! DIDN'T TOUCH IT! YOU PEOPLE ARE THE DOCTORS! NOT ME!!
PRESIDENT XYZ OIL BURNER CO.
SO THE SERVICE MEN CALL AGAIN!
YOU DIDN'T TOUCH IT?
AW... I JUST TOOK OUT A COUPLE OF TINY SCREWS TO SEE WHAT MADE IT TICK! I READ A BOOK ON OIL-BURNERS ONCE... BUT I SWEAR, I DIDN'T DO NOTHING TO IT! TROUBLE IS... YOUR OUTFIT SOLD ME A BUM BURNER... BLA. BLA... BLA... BLA... BLA... BLA.
©
H.T. ELMO

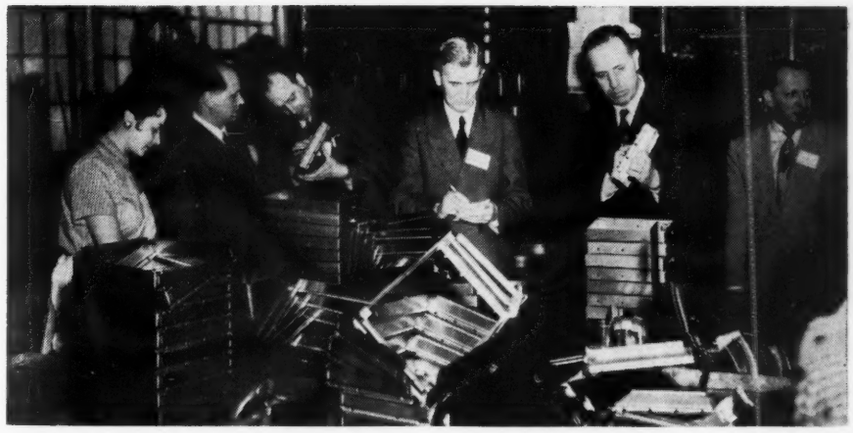
Lennox Furnace develops builders' promotion Kit

TO ASSIST builders in getting prospects to see and buy their homes, a model home promotion kit has been developed by the Lennox Furnace Co., Marshalltown, Iowa.

Including more than a dozen selling aids, the kit has a three fold objective: 1. To attract prospects to the builder's homes by providing powerful advertising aids; 2. To stage model home promotions by using merchandisers such as an electronic-voice magic hostess; and 3. To sell more homes by using an effective follow-through technique.

Developed according to the recommendations of builders, the promotional kit has been field tested, and may be obtained from the merchandising department, Lennox Furnace Co., Marshalltown, Ia.

Representatives *of the German heating and ventilating industry inspect the plant of the Auer Register Co., Cleveland, O. They visited other companies in the midwest and east under the Foreign Operations Administration technical exchange program.*



Hall-Neal stages annual Victor dealers Meeting

APPROXIMATELY 175 dealers and distributors from all parts of the country attended this year's annual Victor Dealers' Sales Conference staged by the Hall-Neal Furnace Co., Indianapolis, Indiana, at the Marott Hotel, Ind., April 5 and 6.

Highlight of the meeting, which was opened by Fred Boone, president of Hall-Neal, was the introduction of the new Victoraire line of air and water-cooled central cooling units.

Talks by T. H. Smoot, vice-president and sales manager of Primor Products, Inc. on "Cooling past, present and future," and by Tom Williams and C. Bodell, assistant sales managers of Hall-Neal on "Victoraire Cooling" were also heard.

Worthington Pump re-locates and expands Detroit Office

WORTHINGTON CORP., Harrison, N. J., has moved its Detroit District Office from 2824 Grand Boulevard to 13305 Puritan Ave. The new quarters provide double the facilities in the machinery building and more adequate quarters for the sales and clerical staff.

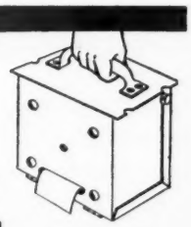
Clarence S. Wentworth, Central Sales Manager, says that the move to the northwest part of the city will permit Worthington to serve customers more readily and efficiently.

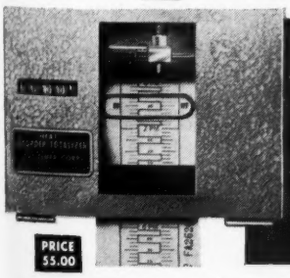
Assembly line profit Program introduced by Delco Appliance

AT A RECENT national sales meeting in Rochester, N. Y., the sales staff of Delco Appliance Div., General Motors Corp., were acquainted with the advertising and promotion program for 1955.

Complete merchandising promotion packages have gone to all Delco-Heat dealers detailing the national advertising program and material for their tie-in use by dealers participating in the "assembly line profit program."

NEW PORTABLE recorder + totalizer





AUTOMATIC on-the-spot check of AIR CONDITIONING or HEATING systems

PRICE $5.00

No more wasting time in checking the operation of any installation—be it a new air conditioning unit, oil burner or heating plant. The PORTABLE Recorder + Totalizer furnishes all the data you could get with a stopwatch, pad, pencil and adding machine. It makes a chronological record on tape of the time and length of every "on", every "off" period, and it also gives you a total of the "on" time on the totalizer. The Recorder + Totalizer operates electrically—in any plant large or small, old or new. Use the portable model from job to job . . . or better yet make it a part of every installation . . . it's so low priced. You can satisfy yourself . . . and give assurance to your customers that the job is right.

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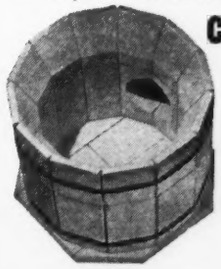
Mfrs. of HEAT-TIMER electronic weather controls, HEAT Recorder-Totalizer, Variovalve, Thermovalve, Main Line Quick-Vent Valve, Motorized Valves, Smoke-Eye Smoke Alarm, Fire-Chief Fire Alarm, H-T Burner Alarm.

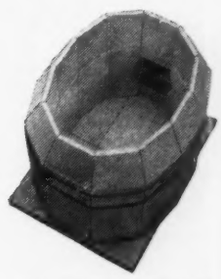
I give my customers the BEST!

The Instant - Glo
CUSTOM-BUILT INSULATING BRICK
COMBUSTION CHAMBER



STANDARD ROUND TYPE
for Boilers
and Cast Iron Furnaces
Sizes up to 2.0 GPH

ROUND "A" TYPE
Specially Designed for
Steel Furnaces
(Can be used on any job where round chamber is desirable.)
Sizes up to 1.75 GPH



"NARROWBOY"
for Narrow Boilers
and Furnaces
Sizes up to 5.0 GPH

Write for new complete specification sheet

BOSTON MACHINE WORKS COMPANY
Oil Heating Supplies Division, Manufacturers, Lynn, Mass.

IDEAL MONEY

Loans on receivables involve no partnerships, no interference, and the cost is generally less than the amount you can save by taking a 1% discount on your purchases. Unlike dividends, they are tax deductible.

Write, phone or wire for information on the Lexington Plan.

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Fuel Financing
In the New England Area

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EVER-TITE, THE BEST IN QUICK COUPLINGS

Ever-Tite Couplings give quick, sealed connections that *stay tight.* They speed deliveries — prevent leakage — pay for themselves many times over. There's an Ever-Tite for every hose coupling need.
Consult us now about *your* plant or truck equipment problems, or write for catalog.

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RENICK & MAHONEY, Inc.

380 Second Ave. (at 22nd St.)
New York 10, N. Y.

Complete equipment for the Oil Trade

Profits in Cooling

(*Begins on page 78*)

recirculated is changed so that what was cooled by the evaporator in summer is now heated by the condenser. This presents no complications just so long as the evaporator can be expected to absorb heat from its surroundings in the same quantities that are needed at the condenser but at the evaporator's lower temperature level.

The performance equation for a refrigeration cycle is more complex than needs to be studied at this time. However, it proves conclusively that a relatively large difference between the condensing and the suction pressures means greater energy or power to drive the compressor to accomplish an equal amount of heat transfer. In other words, the cycle efficiency is high and quantity of driving power relatively low when pressures on opposite sides of the cycle are relatively close. Efficiency drops as the pressure difference increases.

This means that the economical performance of a heat pump requires that the temperature of the source from which the heat is removed (to cool the evaporator) should be as high as possible. Also, the temperature to which heat is pumped from the condenser needs to be as low as practical. Field work shows that when the spread between evaporator and condenser is low, the useful heat from the condenser can be from three to five times the heat equivalent of the work used to run the compressor. As the spread increases, the useful heat approaches the heat equivalent of the work required to run the compressor. Under these conditions, the electric energy used to run the compressor must be supplemented by additional heating which often is obtained from straight electirc heating elements. These can add appreciably to the operating expense as well as to the initial cost for the system.

For certain industrial heating and cooling applications, there can be a number of heat balance conditions which make heat pump applications very efficient. For residential installations, these heat balance conditions seldom, if ever, exist. The big problem then is finding a source from which

ANNOUNCING

New Completely Packaged Quality Fuel Oil Trucks

— 1955 CHASSIS —

1300 GALLON Tank—2 Ton Chassis with 6 — 8:25 x 20 — 10 Ply tires; complete $4450.00

1500 GALLON Tank-Chassis with 6—900 x 20 — 10 Ply tires; complete ..$4725.00

1600 GALLON Tank-2½ Ton Chassis with 6 — 900 x 20 — 10 Ply tires; complete $5125.00

1750 GALLON Tank-Chassis with 6 — 900 x 20 — 10 Ply tires; complete $5450.00

2100 GALLON Tank-3 Ton Chassis with 6 — 10:00 x 20 — 12 Ply tires, complete $6675.00

The above base prices include all Federal Excise Taxes. The tanks include 2 compartments, with 2" Printing Meter, 2" Pump, Electric Hose Reel, with 125'1¼" 3 Braid Quality Hose, 2" Seamless Steel Tubing lines, manifolded, complete lighting system. Tank is of 10 Gauge shell construction with fully flanged heads.

Wire, Write, or Phone—

RUSSELL OIL EQUIPMENT CORP.

765 Humboldt Street, Brooklyn 22, N. Y.
EVergreen 9-5016

OIL BURNER IGNITION ASSEMBLIES *for* industrial and residential use

CROWN offers a complete line of standard oil burner electrode assemblies, cable assemblies, hardware, terminals and UL approved cable. Quality is the finest available. Ceramic insulators are UL approved. Prompt, efficient, reliable service on all orders—large or small.

Complete Service

CROWN engineering service is complete. Call or write today for complete information on standard or custom-built assemblies. Literature on request.

Crown Engineering CORPORATION
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heat may be removed by the evaporator. In different parts of the country, different heat "beds" have been built or found to exist in natural state.

Of course, the simplest equipment is an evaporator over which outdoor air can be circulated. However, with temperatures below 50°, pressure spread increases. With air temperature below 40°, there is a very good possibility that frost will form on the coil. One alternative is using wide fin spacing to prevent small quantities of frost from blocking air flow. Such coils are expensive, and often too big to fit the standard conditioner casing.

A source of warm water that can be wasted or recirculated makes the initial equipment slightly more complicated but far more efficient from standpoint of operating expense. In other specific applications, heat storage tanks are built and used to avoid the peak heating load that otherwise would require expensive service. The possibility of freezing is always a hazard.

In the final analysis, the heat pump for winter component is practical in a very mild climate and when the power service is adequate so that utility company wants the electric load to drive the compressor and is willing to supply the current at reasonable cost.

There seems little doubt but that the power load problem will be overcome eventually. Furthermore, better heat storage tanks will be developed to encourage more widespread use of the heat pump. However, the use of heat pumps under present conditions is extremely limited (on a national basis) and it will be quite a few years before this sysem approaches in popularity and usefulness the standard system which employs conventional heating units.

❖

Kenneth Reiley, sales engineer for the Mercoid Corp., Chicago, Ill., died recently of a heart attack at his home in Mt. Vernon, N. Y., at the age of 50. Reiley's experience in the heating control field extended over a period of 25 years. He served Mercoid in and around the New York area from 1930 to 1955.

Profitable Service

(*Begins on page* 69)

"provided a basis for what we should charge the customer." In fact, it caused an increase in service rates.

Irwin described next how Atlantic confined direct service to the 8 mile radius and let out to contractors the service they had rendered in the periphery section. Because of unfamiliarity with how to work such arrangement, a scheme was evolved under which Atlantic signed a service contract with the customer, turned over calls to the contractor and paid him a portion of the remittance. It worked out to an hourly rate, that, as Irwin said, "was certainly acceptable to them."

One type of service contract which Atlantic uses provides the usual vacuum cleaning, all service calls at no charge for a period of 12 months, with parts extra. Under these contracts, the contractor received a fee for the vacuum cleaning and for all service calls on the hourly rate basis. Then, as Irwin explains it, "to introduce the idea that he was to receive some of the parts sales

Another first with FUELOIL & OIL HEAT—

"FUNDAMENTALS OF OILBURNER CONTROLS"

Just off the press—we have just printed a manual consisting of a series of articles which appeared during 1953 and the first half of 1954 published by FUELOIL & OIL HEAT (by John Schulz on oilburner controls).

The title of this 64 page book is "FUNDAMENTALS OF OILBURNER CONTROLS." It will prove extremely helpful in increasing your knowledge of the principal makes of oilburner controls.

Price only $1.00 postpaid—8½ x 11—64 pages

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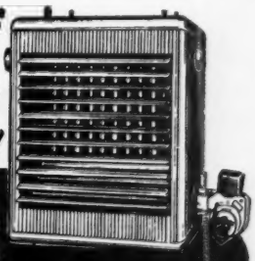
Only DELTA Makes All 3!



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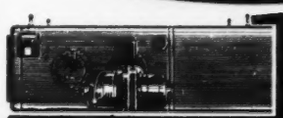
For lowest cost industrial heating. Ideal for factories, warehouses, commercial buildings, and locations requiring high velocity air delivery.



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Provides an extremely effective, yet extremely economical central heating system for small cellarless homes.

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FOR OIL BURNER SPARK PLUG IGNITION CONNECTIONS
Made in Two Styles
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COMBUSTION CHAMBERS
QUICK HEAT LONG LIFE

TONGUE & GROOVE JOINTS
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HIGH SIDE WALLS
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DOUBLE SEAL BETWEEN FLOOR & WALLS
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PRE-CAST FLOOR
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AIR SPACE BENEATH FLOOR

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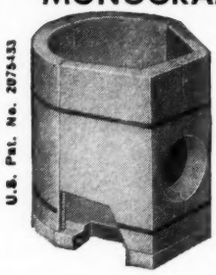

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.75 TO 12 GALLONS PER HOUR

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revenue we told him, 'If you take this arrangement in your zone'—and we even gave him the breakdown of the number of customers—'you supply the parts, keep the profit and guarantee the part to the customer and to us.' He, of course, would sell the parts on our preferred list, not overly profitable, but generous enough to make it attractive to the contractor."

Within the city boundary, Irwin went on, we give direct service, but maintain one city contracted area as a trial and to give us a representative cross section of costs within Philadelphia proper. Our three year experience with contractors, he admitted, "hasn't been easy going with all of it." Some were unsatisfactory and they were replaced and some customers complained to Atlantic: "I've engaged you to do my service work. You are billing me. Why can't your men do the work?"

However, "from my own experience," Irwin declared, "I can say that we are nearly approaching service at a break-even cost. I feel most happy about it, because after struggling with it for nine years, we are finding that it can be a workable idea."

Relating these experiences to ways that the average oilheating dealer can utilize to improve this service department operation, Irwin maintained that it would be well for each dealer to make available to his service manager "a cost statement every month to give him a review of the straight-time hourly wages." Make it a complete statement, he continued, to include other expenses that occur so that he can continually gauge how his department stands.

In fact, give him total costs and "let him in his own way analyze the statement and submit a report or a rebuttal, as it were, to the over-all cost of operation of the service enterprise. Treated as such, I'm positive your service manager will be able to give you the right type operation—a no-cost operation."

❖

Robert J. Marron was elected April 12 to the position of vice-president the Coastal Oil Co., Newark, N. J. Assistant general manager since 1951, Marron joined the Coastal organization in 1946.

Wilson M. Milligan has joined Granberg Corp., Oakland, Calif., as East Coast Division sales manager, and *Randy J. Murphey* has been named regional manager for Northern California. Milligan has had over 20 years of experience in various segments of the petroleum industry. He will maintain headquarters at 489—5th Ave., New York. Murphey, who will have his offices at 1308—67th St., Oakland, Calif., shows 16 years background in truck equipment sales.

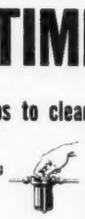
Elmer H. Wegner was recently promoted by the Cleaver-Brooks Co., Milwaukee, Wis., to the post of vice-president of manufacturing. Formerly director of purchasing with Ladish Co., Wegner joined Cleaver-Brooks in the same capacity during 1953. Shortly thereafter he became general manager of manufacturing.

Harold C. Sparks has been employed as furnace sales representative in southern and southwestern Ohio by Perfection Stove Co., Cleveland. Sparks lives in Fayetteville, Ohio.

LIFETIME FILTER

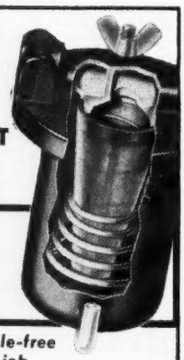
3 simple steps to clean:

1. Remove 2 wing nuts.
2. Hold filter element under hot water faucet for a few minutes to remove dirt and impurities.
3. Empty water and heavy residue out of cup — reassemble filter.



TRAP-IT MODEL 243 SY

FOR ALL GRAVITY-TYPE AND POWER BURNERS using up to 5½ gph of No. 1 or 2 fuel oil.



Install profitable trouble-free Trap-it on that next job

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No smokepipe obstruction, just cut a rectangular slot in smokepipe and band on.
Can be mounted horizontally or vertically.

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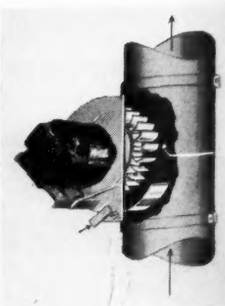

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OHI Convention

(*Begins on page* 66)

third for the Eastern Seaboard, where headquarters would be maintained. Pointing out how this logical separation would permit areas having common problems to establish and administer their own program more easily, Burroughs suggested that each territory have its own full time, paid trade association secretary, with the top man located in the East.

Under the program, Burroughs pictured offices in New York, Chicago and Seattle, with the West Coast area remaining basically as now constituted, the Mid-Continent to be revitalized with the addition of more NOJC chapters as members and the Eastern structure to develop Oil Heat Councils in the principal marketing areas. Regional conventions, which would have more attraction for local dealers, could be held regularly, along with a combined annual meeting.

The over-all program was presented merely for consideration, as something to be set up as a future project for the Distribution Division.

C. W. Lang, Sundstrand, acted as chairman of the annual meeting of the Accessory Division, in the absence of Bruce Olson. After considerable discussion the Division adopted four recommendations, which were presented to the Institute Board:

1. That the Accessory Division favors a continuation of the oilheating expositions every other year.

2. That the location of these expositions be rotated to various sections of the country.

3. That the Accessory Division luncheon, which has been an annual affair, in the future be held only in alternate years, these being the years when no exposition is held.

4. That the membership committee make a determined effort to attract more oilburner manufacturers.

The report made to the directors by J. Verne Resek, Cleaver-Brooks Co., and chairman of the Commercial-Industrial Section, is included in the Commercial-Industrial Section of this issue.

Ralph Becker returned to present a resolution urging the prohibition of Class B chimneys in new homes, telling of a talk with Mr. Mason of FHA who reported his agency follows NFBU regulations. On the other hand, Becker says the Institute can expect some support from the National Fire Prevention Association in its suggestion that Class B chimneys be limited to heating units not larger than 35,000 Btu capacity.

Chairman Sullivan conducted a meeting of the Technical Division on April 20, which included a report made by David Locklin, Timken, on a project to standardize combustion test procedures. He mentioned five phases of this project and said the first three are pretty well along: 1. OHI smoke density measurement by filter paper; 2. Effect of burner air supply on smoke density; 3. Smoke test for intermittent operation; 4. Measurement of soot deposit; 5. Measurement of stack pick-up.

Norman Thompson, Sun Oil, reported on the API furnace oil study, saying that as of April 15 test samples from all refiners had been sent to Bartlesville, Okla. and that data probably will be released in August. The study

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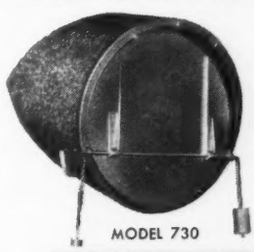

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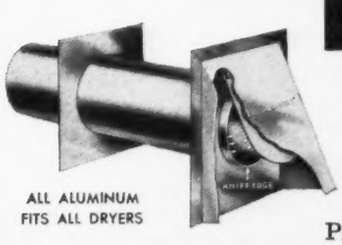

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will show by areas current characteristics of fueloils and, after this has been done for two or three years, trends will become apparent. The API is doing this work in cooperation with the Bureau of Mines and without cost to OHI.

Dr. Putnam, Batelle Memorial Institute and project engineer in charge of the joint pulsation study, showed a movie to demonstrate the action of an oilburner flame when pulsation is present. Interest in this was particularly strong since it served as a progress report after the first year of a three year study. Putnam explained that the undertaking would be of considerable significance to the heating industry and in other directions. He mentioned, for example, that military rockets are bothered by pulsation.

The project chairman on tank corrosion, Robert Gilmartin, Gulf Oil, told of his committee's work with Underwriters' Laboratories and the apparent confusion that now exists. Underwriters some time ago issued a regulation that future fueloil tanks should have bottom, rather than end outlets. Subsequent laboratory work by oil refiners disclosed that the bottom outlet tank would corrode as rapidly as those with end outlets because the slope of the tank does not necessarily cause all the water to drain. Underwriters then issued a bulletin proposing to make acceptable either end or bottom outlets, giving the dealer his choice.

Reaction from tank manufacturers, visualizing the need to stock both kinds in various sizes, was so marked that Underwriters has declared a "status-quo," meaning that only the bottom outlet tank is approved until such time as a new determination can be made.

In the meeting were 16 oil men and on a show of hands 14 said they prefer the end outlet. The other two men were from Standard of Indiana who mentioned that their own laboratory tests had shown no advantage either way and that the tendency to corrode was equal.

A high spot of the convention was a series of round table discussions arranged the final afternoon by the Distribution Division. This was a project where ten men sat at each of some 20 tables to discuss specific industry activities—in other words, old-fashioned bull sessions.

William Allman, Oil Heat Association of Gary, Ind., was chairman of the session, which consisted of tables set aside for discussion of four general categories, each having a section leader. There were five tables on various phases of oilburner service, with Tim Loizeaux, Plainfield, N. J., as leader. Another group of tables had to do with fueloil operations, headed by Carl Goddard, Scully Signal Co.

A third group was under the general heading of fueloil office procedures, leader William Phillips, Sinclair Refining, Chicago, and a fourth general grouping covered the broad subject of fueloil management. I. L. Shurman, Consumers Petroleum Co., Chicago, was leader.

It is impossible to report for publication the many topics discussed, but it was mighty obvious that the participants were having a good time and obtaining much practical information.

Next meeting of the Institute board of directors is scheduled for September in Atlantic City.

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